BROWNFIELD REDEVELOPMENT ASSESSMENT REPORT

FOR

PACKARD PLANT COMPLEX

DETROIT, MICHIGAN

March 24, 1998

REPORT PREPARED BY: Cindy S Fairbanks DATE: 3/24/98

Cindy Fairbanks, Investigation Team Leader
Pre-Remedial Group, Site Management Unit 1

REVIEWED AND APPROVED BY: George Carpent DATE: 3/24/98

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Michigan Department of Environmental Quality
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Superfund Section
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STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

March 24, 1998

Ms. Jeanne Griffin
Early Action Project Manager
Emergency Response Section 2
Emergency and Enforcement Branch
Division of Superfund (SE-4J)
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Dear Ms. Griffin:

I have enclosed one copy of the finaled Brownfield Redevelopment Assessment report for the investigation conducted on the Packard Plant Complex property located in Detroit, Michigan The finaled Michigan Department of Community Health Health Consultation report will be sent to you when it has been finaled and distributed. Please put this report in your files.

With this report, we have now submitted five of the ten brownfield reports required to meet our CA for FY98.

If you have any questions concerning this report, please contact me at the number given below.

Sincerely,

Cindy S Fairbanks

Cindy Fairbanks
Brownfield Project Manager
Pre-Remedial Program
Superfund Section
Environmental Response Division
517-335-4111

Enclosures

cc: Mr. Joseph Walczak, MDEQ
Brownfield Project File

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(Rev. 1/98)

Read 3/27/98

STATE OF MICHIGAN

JOHN ENGLER, Governor

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RUSSELL J. HARDING, *Director*

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

April 10, 1998

Ms. Jeanne Griffin
Early Action Project Manager
Emergency Response Section 2
Emergency and Enforcement Branch
Division of Superfund (SE-4J)
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Dear Ms. Griffin:

I have enclosed one copy of the finaled Michigan Department of Community Health Health Consultation report for the Brownfield Redevelopment Assessment (BFRA) investigation conducted on the Packard Plant Complex. Please place this health consultation into Appendix B of your copy of the BFRA report. Your BFRA report on the Packard Plant complex is now complete.

If you have any questions concerning this report, please contact me at the number given below.

Sincerely,

Cindy S Fairbanks

Cindy Fairbanks
Brownfield Project Manager
Pre-Remedial Program
Superfund Section
Environmental Response Division
517-335-4111

Enclosures

cc: Mr. Joseph Walczak, MDEQ
Brownfield Project Files

EXECUTIVE SUMMARY

The Michigan Department of Environmental Quality (MDEQ) Pre-Remedial Group was contracted via a cooperative agreement with the U.S. Environmental Protection Agency (EPA) to conduct Brownfield Redevelopment Assessments (BFRA). A BFRA of the Packard Plant Complex property was conducted on July 29, 30. 31 and August 5, 1997. The field sampling event included the collection of three (3) surficial soil samples, two (2) capacitor oil samples and nine (9) paint chip samples. An asbestos investigation and sampling was also conducted during the building audits of all the structures currently encompassing the complex property. The Michigan Department of Community Health (MDCH) is completing a Health Consultation Assessment of the property.

Analysis of the surficial soil samples detected the presence of lead and PCBs. Lead was also detected in all of the paint chip samples. The lead concentrations in all these samples exceeded the Generic Residential and Industrial Direct Contact Cleanup Criteria of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The PCB concentration exceeded only the Generic Residential Direct Contact Cleanup Criteria of NREPA. The MDEQ has determined that the property meets the definition of a facility as defined in Part 201 of NREPA.

Based on the findings of the BFRA and the MDCH Health Consultation Assessment, the following issues should be addressed before or during the redevelopment of the Packard Plant Complex property:

- Appropriate measures to control future worker exposure risks should be followed during any removal/remediation work undertaken at this facility.

- Bird droppings and carcasses were observed in numerous stairwells in the vacant portions of the complex buildings, in particular Buildings 1,5,9 and 92. Frequent exposure to bird droppings have been documented to be the cause of intestinal, lung or skin health problems in human beings.

- Further investigation of a suspected underground storage tank (UST) area in the north west portion of the complex outside Building 9. Stand up pipes from the concrete pad, a small brick pump house, pipe vents along the outer wall of Building 9 and flush mounted metallic manhole covers indicate the presence of one or more USTs under the concrete pad.

- Removal of approximately 500,000 used tires piled into the first floor at the south end of Building 38. Tires, present in such a large quantity, can be deemed a fire and environmental hazard. A second smaller amount of tires is located on the second floor of Building 92.

- Sampling of drum contents and removal of all drums and containers found throughout the complex, especially on the first floor of Building 23, the fifth floor of Building 18-16-11-12 and the fourth floor of Building 92.

- Removal of scattered debris including empty 55-gallon drums, 5-gallon buckets, wooden pallets, construction materials, old office furniture, tires, bundled rags, piled plastic pellets and other material noted during building audit walk through. These are located in Buildings 10,11,12, 1,5,4 and especially Building 23.

- Refuse and other material dumped around the exterior of Building 92.

- All regulated asbestos containing material (ACM) in the complex should either be removed from the buildings or encapsulated during any revitalization of the structures. Removal of ACM must follow National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. Asbestos observed in the tenant occupied areas of the complex (first floors of Buildings 2,4,4C,10,10C,15,15C, 17, 17C, 19, 19C, 21, 31 31C) were well maintained and pose little to no risk to the workers. Asbestos observed in the vandalized or vacant portions of the complex was torn and hanging from the pipes or scattered over the floors exposing the fibers and creating a risk of inhalation exposure.

- Elevated concentrations of lead in paint throughout the complex. Intact lead based paint poses little threat to human exposure via the direct contact route. However, peeling lead based paint which was observed in portions of the complex buildings or removal of lead based paint during renovation, may release paint particle dust which may pose an inhalation threat to workers and nearby resident populations.

- New purchasers of the property should be in compliance with Section 7a obligations of NREPA. These obligations include not exacerbating the existing contamination, exercising due care to assure there are not unacceptable exposures and taking reasonable precautions against the reasonable foreseeable activities of third parties.

INTRODUCTION

The MDEQ Pre-Remedial Group was contracted via a cooperative agreement with the U. S. EPA to conduct Brownfield Redevelopment Assessments (BFRA) as part of the Detroit Brownfield Pilot Project. A brownfield is a property, or a portion thereof, that has actual or perceived contamination and an active potential for redevelopment or reuse. Properties which meet these qualifications have been selected by the city of Detroit to be investigated in the Detroit Brownfield Pilot Project.

BFRAs are intended to provide information on abandoned properties where potential environmental contamination may be acting as an impediment to future redevelopment activities. MDEQ Pre-Remedial Group staff conduct environmental investigations to determine the types and locations of past and present industrial activities, potential environmental migration pathways of concern, types and concentrations of potential contaminants and the need for remedial and/or removal actions on the property

The MDEQ conducted a BFRA of the Packard Plant Complex property in accordance with the cooperative agreement with the EPA. The BFRA included file and information searches, a reconnaissance inspection of the property, an audit of the property buildings including the collection of asbestos samples, and the collection of surficial soil, capacitor oil and paint chip samples.

PROPERTY BACKGROUND

Property Description

The Packard Plant Complex is comprised of 7 distinct structures which cover three city blocks and encompasses approximately 3.5 million square feet. The complex is located in the northeast corner of the City of Detroit, Wayne County, Michigan. The property complex is bordered by the I-94 interstate (Edsel Ford Freeway) to the north, Concord Avenue and residential neighborhoods to the east, Frederick Avenue and several smaller businesses to the south and the Conrail Railroad tracks to the west. The property is bisected by Palmer Avenue and East Grand Boulevard, both of which run east to west, separating the complex into three distinct blocks of buildings. For easy reference, the grouping of buildings in the Packard Plant Complex will be separated into three areas. These areas will be referred to as the following: South Complex, Central Complex and North Complex.

See Figure 1 for the Property Location Map and Figure 1a. for the Property Features of the entire complex.

PROCEDURES AND RESULTS

The investigation team conducted a combined reconnaissance inspection and building audit of the Packard Plant Complex property and surrounding area on July 29, 30, 31 and August 5, 1997 to make observations to aid in characterizing the property. The combined reconnaissance inspection and building audit included a walk-through of approximately 95 percent of the building structures on the property to determine appropriate health and safety requirements for conducting on-site activities, to determine sampling locations and perform actual sample collection. The combined reconnaissance inspection and building audit observations are found below. Discussions of the asbestos, surficial soil, capacitor oil and paint chip sampling procedures are found in the appropriate sections.

Property History, Reconnaissance Inspection Observations and Building Audit

Photographs of the Packard Plant Complex property taken during the BFRA are provided in Appendix A.

As part of the BFRA, MDCH personnel accompanied the investigation team during the reconnaissance inspection and building audit on July 29 to gather information for a Health Consultation Assessment. The results of the MDCH assessment can be found in the Health Consultation of the Packard Plant Complex property in Appendix B.

The asbestos inspection of the Packard Plant Complex property was conducted on July 29, 30, 31 and August 5, 1997 by the Pre-Remedial investigation team. A total of twenty-two (22) asbestos samples were collected from buildings throughout the Packard Plant Complex. The asbestos samples were collected following the sampling procedure outlined in the work plan. See Appendix C for the MDCH Asbestos Inspection Report for the Packard Plant Complex property.

South Complex History and Building Audit

The two distinct east and west buildings of the South Complex (Buildings 31, 31C, 32, 32C, 33, 34, 35, 37, 37C, 38, 38C, 90, 91, 92 and 92A) are surrounded by Bellevue Avenue to the west, Palmer Avenue to the north which also separates the structure from the Central Complex buildings, Concord Avenue to the east and Frederick Avenue to the south. The two structures are currently joined by an overhead walkway crossing Bellevue Avenue. In 1915, the south half of the east building consisted of brick warehouses which were separated from the remainder of the building by the no longer existing Kirby Avenue. The north half of the structure was the Packard Motors Truck Department, Truck Assembly Facility. The south half of the west building contained the Princess Motor Car Company, the Detroit Wood Pulley Company and the Aug. Paschke and Sons Lumber Yard and Planing Mill (Sanborn 1915). See Figure 2 for the South Complex building identifications.

In 1951, Kirby Avenue no longer separated the east building which had become one structure. The entire west building was occupied by the Packard Motor Car Company. The former Princess Motor Car Company, Detroit Wood Pulley Company and Aug. Paschke and Sons Lumber Yard and Planing Mill were gone and the west building was dedicated entirely to the Packard Motor Car Company. Operations in the west building included Die Making, Metal Shop and Bumping And Truck Frame Assembling (Sanborn 1951).

By 1991, the Packard Motor Car Company no longer existed. The east building housed the American Induction and Heating Corporation and the Motor City Industrial Park, the latter which consisted of several small industrial companies. The west building contained the Packard Industrial Center in the south third and the remainder of the west building was believed to be vacant (Sanborn 1991). The City of Detroit obtained ownership of the property in May of 1997. On-going activities in the three complexes continues under the management of Packard Motor Properties Management Incorporated (aka PMP Management, Inc.).

Buildings 90, 91, 92, 92A

The buildings designated 47, 48, 49, 50, attached to the north end of Building 90 and east end of Building 92A are not owned by the City of Detroit or managed by PMP Management, Inc. Therefore, because the field crew was unable to gain access to these structures during the BFRA, a building audit was not conducted. Several piles of dumped trash and household refuse can be seen along the Bellevue Avenue face of these buildings.

Buildings 90, 91, 92A

The exterior of this single story structure is composed of brick, glass windows and corrugated metal. Entrance to this structure is through a locked door at the south end of Building 92A near the railroad tracks. The interior of the building consists of both cement and wooden block flooring, high vaulted ceilings with metal beams and the corrugated metal roof. The last tenant in this building was the Hoffman Steel Company which used the buildings for storage of abandoned and repossessed cars. Several square openings, approximately two feet by two feet in dimension, are in the cement floor in the south half of the structure. One of these openings is filled with an oil/water mixture and a second is filled with dirt and debris. Three large, metal refrigerator units are abandoned in the north half of the building. Piled fiberglass insulation surrounds these units. A small, wooden paneled, sectioned office area is located in the southeast corner of Building 91. There is vandalism damage to these offices. The ceiling tile could be potential asbestos containing materials (PACM). Several metal pipes of varying diameters located in the ceiling are wrapped in asbestos containing material (ACM), specifically aircell and white, friable material. The latter is also present in mudded joints along the pipes. Portions of the pipe wrap have been torn away from the pipes. All of this pipewrap, high in the ceiling, could not be sampled. The visible ACM exceeds 160 linear feet.

Building 92

This building, attached to the south end of Building 90, is a five story structure. The exterior is constructed of brick and glass windows in metal frames. A large number of the windows have been broken and glass shards can be seen hanging in the metal frames. This is a safety hazard to anyone walking near the building. Household refuse and tires have been illegally dumped behind this building along Frederick Street. ACM pipewrap (aircell and mudded joints) are found in all the northeast corner bathrooms on floors two through five of the building. Total ACM observed is approximately 160 linear feet. There are currently two active business tenants in this building. The remainder of the structure is unoccupied.

Ground Floor Entrance to the building is on the ground floor off of Bellevue Avenue. The south half of the ground floor was recently used by the Michigan Opera Theater Company. Paneled and carpeted offices have been used for costume and prop storage. The only PACM is believed to be the nine inch by nine floor tiles seen in several of the offices. The garage delivery area consists of cement floors and ceiling, painted brick walls (peeling paint noted) and bare metal pipes in the ceiling. A storage area in the garage still contained numerous full and previously opened cans of paint.

North of the former theater company is the active Flo Tech Furniture Company. This business restores old office furniture for reuse. The majority of its building space is used for furniture storage. The floor is bare cement, brick walls, and cement ceiling from which the paint is peeling. All observed pipes were bare or painted metal. No ACM is present.

The north half of the ground floor was previously occupied by a juice company. There are two delivery truck wells. The cement floor is partially covered by stained wooden block flooring. The walls and ceiling are also made of cement. All visible pipes are bare metal with no ACM.

Second Floor Access to the south half of the second floor is via the walkway crossing Bellevue Avenue. This area is currently occupied by Eastside Motor Exchange. This active business refurbishes and repairs older cars. Car carcasses, tools, supplies, acetylene torches, gas cylinders and tanks and car parts were haphazardly scattered about. No ACM material is present.

The north half of the second floor consists of bare cement floors, brick walls and broken windows in metal frames and a cement ceiling. Paint is peeling from all the structural support columns. All the observed metal pipe in the ceiling was bare metal. Seven damaged capacitor carcasses, partially full of oil, and scattered capacitor fins are located in the northwest corner. A small room in the northeast corner, next to the bathroom, contains approximately thirty tires.

Third Floor This floor is currently unoccupied. Access is via the Bellevue Walkway. The floor consists of bare concrete, the walls are brick with broken windows and the ceiling is also made of concrete. All observed pipes are bare metal. Paint is peeling from all of the structure support columns.

Fourth Floor This floor is unoccupied and access is via the west stairwell. Near the stairwell entry are an unknown number of piled plastic containers. These containers are fragile and cracked allowing some of their contents to leak out causing a VOC meter reading of 300+ ppm. They are labeled "Dennison Unitoner, Flammable". Several stacks of wooden pallets are on the floor. The floor is bare cement, the walls are brick with broken windows in metal frames and the ceiling is made of concrete. All observed metal pipes are bare metal. Paint is peeling from all of the structure support columns.

Fifth Floor Access to this unoccupied floor is via the west stairwell. Five empty and rusted 55- gallon metal drums and several piles of wooden pallets are stored on this floor. A 30 foot by 60 foot area of the floor in the northeast corner is covered by a dark colored floor tile, a PACM. The floor is bare cement floor, the walls are brick with broken glass windows in metal frames and the ceiling is made of concrete. All observed metal pipes are bare. Paint is peeling from all the structural support beams.

Roof Access to the roof is via the west stairwell. There are two large piles of 5-gallon, black metal buckets, one in the northeast corner and the second in the southeast corner. These buckets may have contained asphalt roofing material as numerous roof patches are located over the roof. The capacitor room at the top of the elevator shaft, which has been vandalized, contains spilled oil on the floor, one damaged capacitor carcasses and scattered capacitor fins.

Stairwells There are three stairwells in the building. The doors to the southeast and southwest stairwells on floors two through five were locked and secured. The west stairwell was locked on the second floor but there is access to the third, fourth and fifth floors. This stairwell was full of bird dung and several bird carcasses. Paint was peeling from the walls on all three floors.

Bellevue Walkover

The two story walkover structure, which connects Building 92 to Building 38, is made of brick and windows with broken glass. The floors are rectangular wooden blocks. Four damaged capacitor carcasses are located along the north wall of the lower level of the walkover. All four capacitors are partially full of oil.

Building 31, 31C, 32, 32C, 33, 34, 35, 37, 37C, 38, 38C

These buildings constitute a three story structure whose exterior is made of brick walls and windows in metal frames. The majority of the exterior windows are either broken with glass shards hanging from the frames. Building 34, however, is a single story structure with a slanted corrugated metal roof. There is one wing (Building 35) parallel to Concord Avenue from which five individual east-west wings extend (Buildings 31, 31C; 32, 32C; 33; 34; 37, 37C and 38, 38C combined). Buildings 31C, 32C and 37C are single story only. These were former open air courtyards between the building wings that were roofed over and enclosed. The Bellevue Walkway connects the second and third floors of the west end of Building 38 with Building 92.

The Palmer Avenue Walkway (aka north end of Building 30) connects the second and third floors of the north end of Building 35 with Building 28. Six interior stairwells, located next to the elevator shafts, do not allow access between the three floors. The former JE Berger Company facility is attached along the south end of the structure but is not part of the Packard Plant Complex. This building, currently unoccupied, has undergone an US EPA funded removal action completed in the spring of 1997. This removal action occurred due to the presence of elevated levels of PCB in oils which were stored and spilled inside the building. Three small businesses are currently active in a portion of the ground floor of these buildings.

Ground Floor Astro Warehouse, an importer/exporter of materials, currently occupies the ground floor of Buildings 31, 31C, 32, 32C, 33 and the north one third of 35. The floor is asphalt, the interior walls are brick and the ceiling is made of cement. Metal girders support the roof interior. Entrance to the business is from Concord Avenue. More than 160 linear feet of ACM pipewrap covers metal pipes in the ceiling. The majority of the pipewrap is secured with only a few areas of torn ACM observed. Paint is peeling from the ceiling and the roof has rotted out in at least three areas.

Chemical Processing is the business which currently occupies Building 34. The floor is a mixture of asphalt and cement, the walls are brick and the roof is corrugated metal over a metal beam A frame structure. The majority of the ceiling pipes are in the area of the chemical vats and processing. More than 160 liner feet of observed ACM pipewrap cover these ceiling pipes. The majority of the pipe wrap is secured to the pipes with only a few observed areas of slit ACM. which can easily be repaired with duct tape. Several above ground metal vats are used in the overall processing procedure. No spilled material or staining of the floors around the vats were seen. Metal drums stored in the building did not appear to be damaged nor is there spillage of contents on the floor.

An abandoned tire recycling business occupies Buildings 37, 37C and 38C. This business has been inactive since 1990 when the former owner died. Access to this area is through a locked door on Bellevue Avenue. The interior of these buildings are crammed from floor to ceiling with old tires. There are also tires littering the entranceway and the office area near the door. A half ton truck and tire shredder lie buried under the tires. Some tires in the past have spilled out of ground level broken windows onto Bellevue Avenue. It is estimated that between 100,000 to 500,000 tires are currently stored here. The floor, ceiling and walls are all made of concrete. The majority of the pipes seen are bare metal. The exception is 30 feet of ACM pipewrap material (aircell and mudded joints) on a pipe along the interior south wall.

Val Tile Tool Incorporated is the active business located in Building 38. The floor and ceiling are cement while the walls are brick. All observed metal pipe in the ceiling is bare or painted. Paint is also peeling from the ceiling. Stacks and pallets of paper materials and floor tiles are stored in this building to await shipping.

Access to part of the basement is via a stairwell near the Building 38C entryway. There is a small boiler room here with a large capacitor. There is a cluster of pipes of various diameters along the south wall. These pipes are covered in ACM (aircell and mudded joints). A large pile of aircell pipewrap also lies nearby on the floor. Approximately 30 liner feet of ACM is present.

Second Floor The floor is covered with wooden slats with worn, smooth surfaces. There are numerous areas where the slats have been removed to reveal the cement underneath. The walls are brick with broken windows in metal frames, many containing glass shards. All pipes in the ceiling are bare metal. No ACM material is present. Paint is peeling from all of the structure support beams. The entire length of Building 35 and 38 is used by Eastside Motor Exchange as the only access into their auto repair shop in Building 92. Access onto the floor is restricted by a locked, sliding metal door bisecting the floor in the north end of Building 35. Access into the building wings (Buildings 31,32,33) are restricted due to locked metal doors. It is assumed these areas are leased for storage. Access into wings (Building 37 and 38) is restricted when the Eastern Motor Exchange door is locked. Twelve tires, numerous 5 gallon metal buckets and piled wood are located on a ledge along the west side of Building 35.

Third Floor The entire third floor of these buildings are currently unoccupied. Access to the floor is via the stairwell near Building 38 opening onto Bellevue Avenue. The floor is covered with wooden slats with worn, smooth surfaces. There are numerous areas where the slats have been removed to reveal the concrete underneath. The walls are brick and broken glass windows in metal frames. All metal pipes seen in the ceiling are bare. There is no ACM pipewrap. Paint is peeling from all of the structural support beams. Card board boxes, wooden pallets and twenty 55 metal gallon drums are scattered over the floor in Building 31. Entry into this floor is prevented by a locked metal door but a hole between the door and wall allowed slightly restricted viewing of the wing. Building 32 contains 17 55-gallon empty, rusted metal drums. An electrical vault next to the elevator shaft has numerous broken capacitor casings. Oil spillage, apparently from the capacitors, has stained portions of the vault floor. Oil Sample #1 was collected from oil contained in a damaged capacitor carcass. Analysis of this sample did not detect the presence of polychlorinated biphenols (PCBs). Five 55-gallon empty, rusted metal drums are in Building 33. Buildings 37 and 38 are empty. In the south center area of Building 38 is a 20 feet by 20 feet covering of nine inch square, dark red, crumbling floor tiles. Analysis of these floor tiles detected the presence of asbestos.

Stairwells and Elevator Shafts There are a total of 11 stairwells and elevator shafts throughout this structure. Access to all, with the exception to the southwest stairwell near Bellevue Avenue, is restricted by locked and secured doors. Investigation of these areas could not be conducted during the building audit.

Central Complex History and Building Audit

The single structure of the Central Complex (Buildings 27, 28 and 30) is surrounded by East Grand River Avenue to the north, Concord Avenue to the east, Palmer Avenue to the south and Bellevue Avenue to the west. See Figure 3 for the Central Complex building identification.

The single building in the Central Complex was occupied entirely by the Packard Motor Car Company in 1915. Specific operations in this building are not known (Sanborn 1915).

In 1951, the building was still occupied by the Packard Motor Car Company. Functions included packaging and shipping operations. By this time, the building was connected to the South Complex via an overhead walkway crossing Palmer Avenue (Sanborn 1951).

Sometime between 1951 and 1991, the southwest quarter of this building was removed and the area was used as outdoor storage. The Sanborn map for 1991 indicates the building was vacant. The City of Detroit obtained ownership of the property in May of 1997. Current on-going activities in this central complex continue under the management of PMP Management Inc..

Buildings 27, 27C, 28, 30

Building 27C is a one story former open courtyard now covered with a corrugated metal frame roof. The exterior of the buildings are brick with glass windows in metal frames. Almost all of the upper story windows are broken or missing. Building 30, including the Palmer and East Grand Avenue Walkways, parallels Concord Avenue. Buildings 27 and 28 are four story wings extending west from Building 30. Building 30 itself is only three stories tall except where it crosses Palmer Avenue and East Grand Boulevard and is reduced to two stories. Access to the buildings are from the East Grand Boulevard and Palmer Walkways. There is one active business in this structure on the ground floor.

Ground Floor FloKey Elevator, an active metal parts recycling and storage operation, occupies the ground floor of these buildings. This area was formerly occupied by the Kingsley Department Store. The floor and ceiling are cement, except the ceiling covering Building 27C which is corrugated metal over metal beams. The walls are brick. Paint is peeling from the ceiling in the south of Building 28. More than 160 linear feet of ACM pipewrap (aircell and mudded joints) covers a portion of the pipes in the ceiling. The metal parts inventory supply is haphazardly stored throughout the ground floor. Numerous 55 gallon metal drums were observed and presumed to be empty. Additional metal parts are stored outside the building in a fenced in open air lot south of Building 28 and north of Palmer Avenue.

Second Floor This floor is used by a car and boat storage company. Access to this floor was restricted during the building audit.

Third Floor Access to the third floor is via the Palmer Avenue Walkover (aka Building 30) connecting to Building 31 through a hole in the brick wall. The floor is covered with wooden slat flooring over concrete. The walls are brick and broken windows in metal frames. Paint is peeling from the structural support columns. Large pieces of blue and white plastic sheeting cover portions of the floor. Most of the pipes in the ceiling are bare metal. Approximately 100 liner feet of ACM aircell pipewrap is present. Wooden pallets, desks and other parts of furniture are scattered throughout the floor. The electrical room next to the elevator shaft in the southwest corner of Building 28 is crammed full of miscellaneous debris.

Fourth Floor Access to the fourth floor is via the central stairwell from the third floor of Building 27. The floor is covered with wooden slats over concrete, the walls are brick and broken windows in metal frames and the ceiling is also concrete. Paint is peeling from all the structural support columns. Large pieces of clear plastic sheeting cover the floor. All the pipes in the ceiling are bare metal. Fifteen linear feet of ACM (aircell) pipewrap covers pipes in the electrical room next to the elevator shaft in the southwest corner of the floor. An additional 70 linear feet of ACM pipe wrap (aircell) is located in the southeast area of Building 28. Numerous five gallon black metal buckets are haphazardly piled in the southwest corner of Building 27. Buckets in the outer covering of the pile did not have lids and were empty. It is assumed those buckets deeper in the pile are also empty but further investigation will be needed to confirm this.

Palmer Avenue Walkway (aka south end of Building 30) The lower level (second floor) of this walkway is covered in wooden slats and is used by the Eastern Motor Exchange as access into their shop in Building 92. The walls and ceiling are concrete. The upper level (third floor) of the walkway also has wooden slats covering the floors. The walls are brick and broken glass windows in metal frames. The ceiling is also made of concrete.

East Grand Boulevard Walkway (aka north end of Building 30) This walkway is a single level connecting the second floor of Building 18-16-11-12 with Building 30. It is made with cement floor, brick walls and plastic windows. The letters "Motor City Industrial Park" are stenciled in the windows on both sides of the walkway.

North Complex History and Building Audit

There are four distinct and separate building structures which compose the North Complex (Buildings 1, 1C, 2, 2C, 4, 4C, 10, 10C, 11, 12, 13, 15, 15C, 16, 17, 17C, 18, 19, 19C, 21; Building 5; Building 7-8-9; and Building 23). See Figure 4 for the North Complex building identifications.

Building 13, facing along East Grand River Avenue, contained the Packard Motor Car Company offices in 1915. The remainder of the complex housed the car assembly line (including the chassis and body frame assembly), vehicle inspection area and machine shop. The west building housed various functions including brazing, grinding and polishing, wood working involving several steam drying kilns, and the wheel factory. The north third of the property consisted of the test driving track. This building complex was connected to the central complex structure via an overhead walkway crossing over East Grand Boulevard (Sanborn 1915).

Operations of the Packard Motor Car Company remained the same in 1951. The test track had been replaced by a building built in 1927 wherein the final assembly and inspection of the vehicles were conducted (Sanborn 1951).

By 1991, the North Complex had become the major component of the Motor City Industrial Park. The office wing (Building 13) of the structure was occupied by the U.S. Army Detroit Procurement Ordinance and garage. Other businesses included Paul Ross Incorporated, Eidelman Brothers, Eastern Michigan Company and several other unknown industries. The north one third of the building complex was vacant (Sanborn 1991).

The City of Detroit obtained ownership of the property in May of 1997. The PMP Management Inc. continues to manage and provide security for the complex and the current active tenant businesses.

This complex consists of four distinct buildings. The largest structure incorporates the following buildings: 13, 1C, 1, 2, 2C, 4, 4C, 10, 10C, 11, 12, 15, 15C, 16, 17, 17C, 18, 19, 19C and 21. Building 5, which is surrounded on three sides by the above conglomerate, is an isolated structure with overhead walkways connecting it to the larger structure. All of the above buildings with the C designation are former open air courtyards between the building wings which have been roofed over and incorporated into the larger structure. Buildings 13, 1, 4, 10, 15, 17, 19 and 21 are wings extending west from Buildings 2, 11, 12, 16 and 18. Building 23 is a single structure located west of this large complex . Building 9-7-8 is a separate structure located west of the large complex and south of Building 23. See Figure 4 for the North Complex building layout. The complex is connected to the Central Complex by the East Grand Boulevard Walkover (aka Building 30). The exterior of these buildings are brick and glass windows, most of which are broken. Most of the small business activity for the Packard Plant Complex is located in these structures on the ground floor. The offices of Bioresources Incorporated are also located in this part of the overall complex in Building 13.

Building 9-7-8 The exterior of these four story buildings, which together make one structure, is brick and glass windows. Most of the windows on the ground floor have been replaced with boards or hard plastic sheets although some intact windows still exist. Along the exterior west

face of Building 7 is a partially fenced area which at one time held three, large electrical transformers. The transformers are gone but the floor of the cage is covered in black, oily residue. This residue extends beyond the cage onto the nearby ground. Soil sample SS1 was collected from this area and the sample analysis detected lead (950 parts per million (ppm)) which exceeds both the Generic Residential and Industrial Direct Contact Criteria of Part 201 of NREPA. Further west of Building 7, along the fence separating the property from the railroad tracks, are four, 55 gallon metal drums. Several of the drums have bulged, and the ground around the drums is covered with an oily like substance which is believe to have leaked from the drums. Soil sample SS3 was collected from this stained soil. Analysis of the sample did not detected any contaminants at concentrations exceeding Part 201 criteria. Attached to the northwest corner of Building 9 is a small, three roomed pump house. Several, disconnected metal pipes are inside, along with a granular black stained soil on the floor. Soil sample SS3 was collected from this black, granular soil. Analysis of this sample detected PCBs (1,910 parts per billion (ppb)) and lead (5,400 ppm). The PCB concentration exceeds the Generic Residential, but not the Industrial, Direct Contact Criteria of Part 201 of NREPA. The lead concentration exceeds both Direct Contact Criteria of Part 201. Pipes also extend from the pumphouse into Building 9. Exposed metal pipes can also be seen in a partially uncovered trench between Building 9 and the pumphouse. There are at least eight metal pipe vents attached to the exterior of Building 9. Just beyond the pump house are five circular metal covers, flush with the concrete pad. It is suspected that several USTs are located under the concrete pad since exposed pipes were seen beneath one uncovered square opening in the concrete pad. There are two pipe stands, each approximately one foot high, outside the northwest corner of Building 9 and next to an empty above ground storage tank concrete saddle. Two overhead walkways connect Building 7 with Building 5 and Building 4.

Ground Floor Numerous glass windows have been broken out and many have been replaced with boards. Access to the building was through an unsecured door along the east wall. The former tenant, US Plastics Processing, recently ceased operations and abandoned the building. The floor is covered with an unknown amount of roped bundles of plastic bags and containers. Many of these stacks reach the ceiling. What visible portion of the floor is concrete and the walls are made of brick and windows. In the center of the building is a small office area and bathroom. Approximately 20 linear feet of ACM pipe wrap is in the bathroom area. There is suspected PACM floor tiles in the office area. There is a stairwell that leads into the basement. Very little of the darkened basement could be seen from the stairwell but ACM pipewrap, concrete floor and ceiling and brick walls could be observed with a flashlight beam. Paint is peeling from the walls and structural support columns. Access to the upper floors of the building is prevented by padlocks on the doors in the three stairwells. All of the stairwells are full of large amounts of bird droppings, feathers and carcasses. One white five gallon plastic bucket labeled "Quaker State Hydraulic Oil" and two red five gallon containers labeled "Mobil Hydro Oil" are located on the northwest corner of the first floor.

Second Floor Access to this floor is via the central stairwell from the ground floor. The floor and ceiling are concrete. Paint is peeling from the brick walls and structural support columns. There is a large amount of clear plastic sheeting hanging from the ceiling. The west end of the floor has charred walls and ceiling, evidence of an electrical fire. According to Bioresources security personnel, the fire was caused by misuse of the electrical outlets by the former tenant, who then abandoned the building. The south half of the floor has a large amount of fiberglass insulation. Wooden framed walls, indicative of intended future development, divide the area into smaller rooms.

Third Floor This floor is rented from Bioresources by tenants who use the area for storage. The doors in the stairwells are padlocked preventing access by the field investigation team. Partial visual observations of the floor through broken windows from Building 5 revealed the following. Most of the floor is empty. Several cars are stored on the floor and it is not known if more cars or other materials are stored in the areas which could not be observed.

Fourth Floor This floor is also rented from Bioresources by tenants to be used for storage. Again the doors in the stairwells are padlocked preventing access. The view from Building 5 was very limited. There are few broken windows which prevented seeing what, if anything, may be stored on the floor.

Both of these floors are assumed to be constructed of concrete floors and ceilings in a similar fashion as the lower floors in this building. The walls are made of brick and glass windows and very few of the windows were broken. It is unknown if ACM is present.

Building 23 The exterior of this five story building is made of brick and windows. Most of the windows on the ground floor are broken and covered with boards. There is a large loading dock at the north end of the building. There are approximately 50, 55 gallon metal drums stacked in the loading dock area. It is assumed all of the drums are empty but further investigation will be needed to verify this. None of the drums appeared to be damaged. Access to the building is through a broken window on the ground floor.

Ground Floor There is a ramp leading from the loading dock into the center of this floor. The floor is covered with stained, square shaped wooden blocks. There are numerous 55-gallon metal and plastic drums stored in the north and central area of the ground floor. The following is a list of drums seen during the building audit:

- Two blue, plastic 55-gallon drums labeled "Industrial Maintenance Coatings" with flammable stickers on the exterior, believed to have contents inside;
- Five black, metal 55-gallon drums along the interior east wall, no observable labels, believed to have contents inside;
- 26 black, metal 55 gallon drums in the center of the ground floor, no observable labels, believed to have contents inside;

- 12 black, plastic 55 gallon drums along the interior east wall in the center of the building; no observable labels and believed to hold contents;
- 2 black metal 55 gallon drums labeled "PHOSACID" with corrosive stickers on their exterior and believed to have contents inside;
-1 green, metal 55 gallon drum with no observable exterior labeling and assumed to hold contents.

None of the observed drums appeared to be damaged. There are possibly other drums and containers hidden under various piles of debris located in the south half of the ground floor. This debris includes old clothing, bundles of cloth, damaged cardboard containers of various colored plastic pellets, haphazardly stacked bundles of plastic rags and apparently unused medical supply containers including syringes. The latter is scattered throughout the south area of the ground floor. There is one metal pipe in the ceiling running the length of the building which is covered in ACM. The amount of visible ACM pipewrap exceeds 160 linear feet. Access to the upper floors of this building is via the south stairwell. The stairwell has paint peeling from the walls, crumbling concrete steps, piles of bird droppings and several bird carcasses.

Second Floor The second floor is unoccupied. There are two old bed springs and mattresses, a stack of old magazines, seven old and damaged wooden desks and several large wooden spools of plastic coated wire or cable stored on this floor. The floor is made of slatted wooden strips that are rotting out in several places. The walls are made of brick and windows in metal frames. Most of the windows are broken. The ceiling is made of concrete. The majority of the metal pipes suspended in the ceiling are bare metal. One pipe suspended from the center of the ceiling and running the length of the building is covered in ACM pipewrap. There is more than 160 linear feet. A small room at the southwest corner of the floor contained several metal paint can sized containers. One container is labeled "Liquefied Aluminum Roof Coating" and "Stanelyte Gloss Paint". Both containers appeared to be full.

Third Floor The third floor is unoccupied and generally empty. There are six lidless black metal 5-gallon buckets labeled "Asbestos Plastic Roof Cement" scattered on the floor. The floor is again made of slatted wooden strips that have rotted out in several places. The walls are made of brick and windows in metal frames. Most of the windows are broken. The ceiling is made of concrete. One pipe suspended from the ceiling and running the length of the building is wrapped in ACM (aircell) and exceeds 160 linear feet.

Fourth Floor The fourth floor is unoccupied and empty. The floor is made of slatted wooden strips that have rotted in several places. The walls are made of brick with windows in metal frames. Most of the windows are broken. The ceiling is made of concrete. All the pipes observed in the ceiling are bare metal. There is one vertical pipe along the wall wrapped in ACM (aircell) pipewrap. The length is approximately 12 linear feet.

Building 5 This building is a stand alone structure that is surrounded by the U shaped portion of the larger structure comprised of Buildings 1, 1C, 2, 2C and 4, 4C. Access to the ground and second floors of this building could not be found during the building audit. Instead, access is via a open air metal walkway connecting the fifth floor of this building and the fifth floor of Building 2. Interior access to the upper floors of this building is then via the west stairwell. The east stairwell is blocked or the doors are secured on all the upper floors. The exterior of the square building is made of brick and windows with metal frames. Most of the windows on the lower levels of the structure are broken or missing. Exterior observations of these floors indicates they may be used as storage. The upper floors are not occupied.

Third Floor Access to this floor is via the west stairwell from the fourth floor. One empty metal 55-gallon drum and a metal mesh bin full of air filter housing parts used in cars are stored on this floor. The floor and ceiling are made of concrete. The walls are made of brick and broken windows. All observed metal pipes in the ceiling are bare. There is some ACM (aircell) pipewrap, approximately 12 linear feet, on several vertical pipes located in the bathroom in the west central area of the building near the stairwell.

Fourth Floor Access to this floor is via the west stairwell from the fifth floor. Most of this floor is empty space. There are, however, two larger cardboard containers, labeled "Ardoy 1510" from Arco, three empty metal 55 gallon drums, stacked cardboard and wooden pallets and large bags of multicolored plastic pellets. The floor and ceiling are both made of concrete. The walls are brick with windows, most of the latter are missing or broken. All of the observed pipes are bare metal including pipes in the bathroom.

Fifth Floor Access to this floor is via the metal, open air walkway connected to the fifth floor of Building 2. The floor is set up as an obstacle course for paint ball games. Structures are made of wooden pallets and plastic sheets hanging from the ceiling separates the floor into smaller areas. A layer of sawdust mixed with paint ball pellets covers the floor. According to Bioresources security personnel, the Splat Ball City tenant from Building 18-16-11-12 is on this floor illegally. The ceiling is made of concrete as is the floor under the sawdust covering. The walls are brick with broken windows. There is torn and damaged ACM pipewrap, approximately 50 linear feet observed, along vertical pipes near the bathroom area on this floor. It should be noted that paint ball pellets were seen on the third to seventh floors of this building indicating previous trespass.

Sixth Floor A majority of the brick walls, concrete floor and ceiling of this floor are charred black, evidence of a previous fire. Most of the observed metal pipes are bare. There is ACM pipewrap (aircell), approximately 60 linear feet observed, in the bathroom area. There are several scattered piles of wood and pallets throughout the floor.

Seventh Floor Most of this floor is empty except for one pile of cloth rags in the southeast corner. Both the floor and ceiling is made of concrete. There are several large holes in the floor opening onto the sixth floor below. The walls are brick with broken windows. All of the observed pipes are bare metal except for approximately 60 linear feet of ACM (aircell) pipewrap on pipes in the bathroom area.

Building 13 This building is a four story wing located at the south end of the north complex structure. The south face of the wing fronts along East Grand River Boulevard and served as the office area for the former Packard Motor Company. According to Bioresources security personnel, these offices were used by the Internal Revenue Service until the end of the 1980s. Offices in the ground floor at the west end are currently occupied by Bioresources employees. The remainder of the offices are all currently unoccupied. The majority of the windows in this wing are still intact but some breakage has occurred.

All four of the floors have a similar construction and floor plan. On each floor, two rows of offices are separated by a long central hallway running east to west. There are two main stairwells in the center of the building connecting all of the four floors. A third, smaller stairwell is located in the north end of the wing. There are two elevator shafts in the north wall of the wing which connect all four of the floors. The ceilings are covered with ceiling tile. Analysis of the tiles revealed no asbestos materials present. The floors are covered in several types of floor tile. Analysis of the floor tiles also indicated no asbestos materials present. All of the offices are partitioned with lower wooden paneled walls and upper glass or clear plastic partitions. The lower walls of the main hallway are also covered in wooden paneling . The upper half of the main hallway walls, non-paneled walls of the offices and the stairwells are painted. This paint is peeling throughout all the four floors. The offices have all been vandalized. Ceiling tiles have been torn down and some glass partitions have been broken. In those offices where carpeting covers the tiled floor, the carpet has been torn and is wet where located next to broken windows. Florescent light bulbs have also been broken and torn from the ceilings. Each floor has four bathroom areas. Some, but not all, of the bathroom fixtures have been vandalized. ACM pipewrap is located in all of these areas. There are furnace rooms adjacent to the bathrooms which also have ACM pipewrap and large, rectangular, white chalky insulation blocks imprinted with the name "Pyrobar" which is suspected PACM.

At the east end of the third floor is the executive office suite. This office area is larger in size than the other offices, and has evidence of similar vandalism. There is a small boiler room nearby with ACM pipewrap.

The west end of the fourth floor has a kitchen and cafeteria. Many of the kitchen appliances have been vandalized. ACM pipewrap is located in the kitchen area. There is a connecting walkway from this area to the fourth floor of Building 1.

Building 1, 1C, 2, 2C, 4, 4C These buildings form the U shaped part of the north complex structure which surrounds Building 5. They are five stories tall and all are interconnected. There is a three story enclosed walkway leading from Building 4 to Building 9-7-8. Areas designated as 1C, 2C and 4C are former open area courtyards which have been enclosed. Buildings 1C and 4C are one story structures only.

Ground Floor Building 1, 1C This floor is occupied by the active Advance Garage and Door tenant business. This business is an electrical parts distributor and their area is used for parts storage. The ceiling is covered with ceiling tile and the floor with floor tile. Neither of these materials are suspected to contain asbestos material. No pipes, either bare, painted or covered in PACM could be observed in the area.

Building 2, 2C This floor is occupied by an active shoe recycling business. Used shoes are brought here for sorting and distribution. The shoes are stored in large containers. The floor and ceiling is made of concrete. ACM pipewrap, some of which is torn, is found on most of the exposed pipes in the ceiling. There is a small extension of this building into the courtyard. An unknown number of metal car fuel tanks are haphazardly stored in this area. The tanks are assumed to be empty of fuel. There are also several metal 55 gallon drums and 5 gallon metal buckets mixed in with the gas tanks. These drums appeared to be empty.

Building 4, 4C This floor is occupied by Rotor Electric, another electrical parts distributor. According to Bioresources security personnel, this business is a long term tenant. The floor and ceiling are made of concrete. The observed pipes suspended from the ceiling are either bare metal or wrapped in heat tape. A small amount of ACM pipe wrap is around a pipe along the exterior of the building near the entrance to this business. All of the electrical parts are neatly stored on metal racks.

Second Floor Building 1 The majority of this floor is empty. The floor and ceiling are made of concrete. The walls are made of brick and broken glass windows. Metal pipes suspended from the ceiling are devoid of pipewrap. There is a row of structural support beams located in the center of the floor. There are two full pallets of capacitors and several old cars which were abandoned by a former tenant. There is an electrical room at the west end of the floor which contains several transformers. There are several small offices at the west end of the floor with crumbled floor tile and paint peeling from the walls.

Building 2, 2C This floor is rented for storage. The current tenant allowed access for purposes of conducting the building audit. Most of the floor is open area. There are however, eight old cars, several lawn mowers, four empty 55 gallon metal drums and miscellaneous items stored on the floor. The floor and ceiling are made of concrete. There are no additional floors in this building as the ceiling reaches up to the rooftop of the structure.

Building 4 There are scattered cardboard boxes, six 55 gallon metal drums which are either empty or believed to be full of water. A good portion of the floor is covered with piled rags. The floor alternates between concrete to being covered with wooden slats. Paint is peeling from the brick walls. Most of the observed pipes suspended from the cement ceiling are bare metal. Vertical wall pipes, however, are covered in ACM (aircell) pipewrap. The enclosed walkway which connects the west end of this floor to Building 9, is made of brick walls and broken windows. The floor is made of wooden blocks, most of which appear to be stained and discolored.

Third Floor Access to this floor in both Buildings 1 and 4 could not be found during the building audit.

Fourth Floor Building 1 Most of the floor is open space. There is very little trash or debris except for five empty, metal 5 gallon buckets which were labeled "Asphalt Fiber Roof Coating". The floor is covered with wooden slats, the ceiling is concrete and the walls are made of brick and broken glass windows. Paint is peeling from the walls and the central support structure beams. One pipe suspended from the ceiling and running the length of the floor is covered in approximately 200 linear feet of ACM (aircell) pipewrap.

Building 4 This floor is covered with miscellaneous debris consisting of torn ACM (aircell) pipewrap, wooden pallets, tires and at least eleven metal 55 gallon drums, all of which appear to be empty. The floor is covered with wooden slats, the ceiling is concrete and the walls are brick and broken glass windows. All the pipes suspended from the ceiling are bare metal. Some of these pipes may have formerly been covered with ACM pipewrap judging by the large amount of torn ACM (aircell) pipewrap scattered about the floor.

Fifth Floor Building 1 Most of the floor is empty space except for one stack of wooden pallets in the central area. The floor is covered with wooden slats, the ceiling is cement and the walls are brick and broken windows. There is approximately 20 linear feet of ACM (aircell) pipewrap on pipes found in the bathroom.

Building 4 Access to the fifth floor could be found during the building audit.

Buildings 18-16-11-12 These four buildings together form one continuous structure which lies along the east end of the north complex. They are all five stories tall. The north-south building is parallel to Concord Avenue. The exterior of the building is made of brick and windows. All of the windows on the ground floor are intact or have been replaced by the businesses which occupy the ground floor of this structure. Many of the windows in the upper levels are broken or missing. Access to these buildings is via a parking ramp/garage area located in Building 21.

Ground Floor This floor is occupied by various active small businesses. Refer to the building audit section for Buildings 10, 10C, 15, 15C, 17, 17C, 19, 19C and 21 for descriptions of these business tenants. All of the windows and doors on this floor facing Concord Avenue are secured or have been replaced.

Second Floor Nearly all of the eastern half of this floor has been converted into individual storage areas that are rented for this purpose. Access to these storage areas could not be obtained during the building audit inspection. All of the individual rooms are secured with metal doors and locked. Several of the areas have guard dogs which could be heard barking from inside the storage rooms. The remainder of this floor is a long, north-south unimpeded open area which

extends throughout the four buildings, continues into Building 30 and the East Grand River Boulevard crossover, and extends into the buildings of the Central and South Complex. This route is also the access/egress used by the Eastside Motor Exchange, located on the second floor in Building 92, South Complex. Access to the second floors of Buildings 19, 17, 15, and 10 from this floor is also restricted. These building wings are also rented for storage and all were secured by metal doors and locks. The floor is covered with wooden slats which have either been removed or worn away in numerous areas revealing the concrete floor beneath. All of the pipes suspended from the ceiling are bare metal. The walls are brick with peeling paint. A row of structural support beams are located down the center of the floor. Several vertical wall pipes located near the entrance into Building 21 are covered in approximately four linear feet of ACM (aircell) pipewrap.

Third Floor Access to this floor is via the parking ramp/garage located in the adjacent Building 21. As with the second floor, access to Buildings 19, 17, 15, and 10 from this floor is restricted. The floors of these building wings are leased as storage areas which are secured with metal doors and locks. The floor is covered in wooden slats which have been either removed or worn away in numerous areas to reveal the cement underneath. The floor is a continuous north-south open area which connects to the third floor of the office wing, Building 13, at the south end. The walls are made of brick and mostly broken windows. The ceiling is made of concrete and metal pipes suspended from the ceiling were bare. There is one pipe running the length of the ceiling however, that is wrapped in ACM pipewrap and exceeds 160 linear feet in length. Paint is peeling from the walls and the structure support beams. There is one small room along the west wall, approximately 2/3 of the distance from Building 21 entryway, in which metal pipes, metal doors, other miscellaneous items, piled files and paperwork labeled "Ford Motor Company", and approximately 20 cans of unopened paint containers are stored. Several car frames, empty metal 55 gallon drums and wooden pallets are scattered throughout this floor. There is a small electrical room adjacent to the south elevator shaft in which several damaged capacitors are located. Analysis of the oil contents did not detect the presence of PCBs.

Fourth Floor The entire floor is leased by Splat Ball City. Access to the floor is restricted but observation of the floor through the chain linked fence and gate at the north entryway from the parking ramp/garage revealed the area had been developed as an obstacle course for paint gun battles. Wooden pallets, large, wooden cable spools, plastic sheeting hanging from the ceiling, metal 55 gallon drums, all assumed to be empty, and other objects are randomly placed throughout the area. The cement floor is covered with a layer of sawdust. It also appears that the obstacle course extends into the wings of Buildings 19, 17, 15 and 10. The observable pipes suspended from the ceiling are bare metal. There is some ACM pipe wrap around two vertical pipes along the wall at the north entrance to the floor. Access to the south end of the floor is via an unlocked door which connects this floor with the fourth floor of the office wing, Building 13. This area of the floor has been divided into cubical style offices with wooden and plastic partitions and is not part of the Splat Ball City obstacle course. Floor tile, not believed to contain asbestos, covers the floor. Damaged suspended ceiling tile, also not believed to contain asbestos,

is overhead of the cubical area. Most of this area has been vandalized. Some ACM pipewrap is located on a vertical pipe along the west wall and one empty, green five gallon bucket labeled "Freon" lies on the floor.

Fifth Floor Access to this floor is via the parking ramp/garage in Building 21. The north half of the floor is open space. The additional height in the ceiling has openings in which the metal girders remain from the former Packard Plant paint conveyor process. A fibrous sprayed on insulation material, which may contain asbestos, covers the ceiling and walls of this area. The walls are brick and windows, the majority of which are broken or missing. The south half of the floor is haphazardly piled with wooden pallets, tires, plastic forms, several car bodies and boats. Travel through this area is over this debris. One metal 55 gallon drum, partially full of contents and labeled "Reichlod Chemicals Resin Solution" is almost buried in the debris. A VOA reading of 63.9 ppm was detected from an opening in the drum lid. A second metal 55 gallon drum could be seen in the debris. It is labeled "Ethylene Glycol". It could not be determined if the drum contained any contents. It is suspected that additional drums are hidden under the piled debris in this area. The ceiling is made of cement with bare metal pipes suspended from it. The walls are made of brick and windows, with nearly all of the glass gone or broken. Access to the fifth floors of Buildings 19, 17 and 15 from this floor is restricted. According to Bioresources security personnel, these wings are rented as storage areas.

Buildings 10, 10C, 15, 15C, 17, 17C, 19, 19C These four buildings are the east-west wings which extend from Buildings 18,16,11,12. They are all five story structures with the exception of Building 10 which is only four stories tall. As noted previously in this building audit, those buildings designated with a "C" are former open air courtyards which have been enclosed and are only one story tall. The upper floors of all four of these buildings are rented to tenants for storage. Access to these floors could not be obtained during the building audit. As stated below, the ground floor of these four buildings are occupied by active businesses.

Ground Floor Building 10, 10C Access to this area could not be obtained during the building audit.

Building 15, 15C This floor is occupied by the Ameritex Auto Repair company. They use the area for parking their vans when not in use. The floor and ceiling is made of concrete. The walls are made of brick and there are no windows. No pipes could be seen.

Building 17, 17C This floor is occupied by Machinery International. This company uses this space for storage of large motors and other machine parts. The used parts have been rehabilitated for reuse and are shipped from this location. This is one of several storage areas used by this company in the city of Detroit. The floor and ceiling are made of concrete and the area of 10C is roofed with metal sheets over an A frame. The walls are made of brick and there are no windows. All observed pipe is bare metal.

Building 19, 19C This floor is occupied by the Cabana Chips company. This company uses the space for storage and distribution of pre-packaged food (i.e. potato and corn chips, chip dips and salsa). The rooms are well maintained and clean. All of the packaged food products are stacked neatly on metal shelves or wooden pallets. The floor and ceiling are made of concrete. The walls are made of brick and there are no windows. Pipes suspended from the ceiling are covered in well maintained ACM pipewrap although several small tears in the wrap could be seen. There is more than 160 linear feet of ACM pipewrap present.

Building 21 This building is located at the north end of the north complex structure. It is five stories tall and made of brick. There are no windows. It is a parking ramp/garage on the southern half of all five of the floors. The northern half of all five of the floors have been partitioned into individual storage areas. Access to these locked and secured areas could not be obtained during the building audit. The fifth floor ramp is used exclusively for patrons of Splat Ball City. The interior walls are painted brick. The floors and ceilings are made of cement. There is one stairwell in the south central area with limited access to the floors.

Sampling Procedures and Results

On July 30, 1997, MDEQ Pre-Remedial Group staff collected three (3) surficial soil samples, two (2) capacitor oil samples and nine (9) paint chip samples from suspected areas of contamination at the Packard Plant Complex property. These samples were collected by the investigation team to determine the levels of EPA Target Compound List compounds (organic compounds) and Target Analyte List analytes (inorganic compounds) which may be present at the property.

Standard MDEQ collection and decontamination procedures, as outlined in the work plan, were adhered to during the collection of all samples. All samples were packaged and shipped in accordance with EPA required procedures and all EPA quality assurance/quality control procedures were followed. Laboratory analytical data for all the sample analyses are provided in Appendix D.

Surficial Soil Samples

The intent of the surficial soil sampling was to determine the potential for possible contaminant migration from suspected source areas, the potential health and safety concerns, if any, and direct contact threats posed to nearby residential populations and future workers associated with the surficial soils at the property. Three (3) surficial soil samples were collected from stained soils located in the exterior area west of Building 9-7-8 to characterize any possible PCB and heavy metal contamination.

All surficial soil samples were collected using stainless steel trowels according to the procedures outlined in the work plan. See Figure 5 for a map showing surficial soil sample locations. For a description of the surficial soil sample locations and the sample characteristics, refer to Table 1. Table 2 gives a summary of the surficial soil sample analytical results with comparisons to the Generic Cleanup Criteria of Part 201 of NREPA.

Analysis of the three surficial soils detected the presence of lead in SS1 and SS2 and PCBs in SS2. Lead was detected in concentrations which exceeded both the Generic Residential and Industrial Direct Contact Cleanup Criteria of Part 201 of NREPA. The PCBs concentrations detected exceeded the Residential but was less than the Industrial Direct Contact Cleanup Criteria of NREPA. SS3, which was collected from oil stained soil near the four leaking 55-gallon metal drums, did not have contaminant concentrations which exceeded Part 201 criteria.

Paint Chip Sampling

The intent of the paint chip sampling was to determine if the peeling paint noted throughout the entire complex contained lead in concentrations which could pose potential human health and environmental risks in particulate form to area populations and workers. Nine (9) paint chip samples were collected from areas throughout the complex for analysis. The paint chips were collected by scraping the flaking paint from walls or support structures into the sample containers. See Figure 5 for the Paint Chip sample locations. For a description of the paint chip sample locations and the sample characteristics, refer to Table 3. Table 4 gives a summary of the analytical results. All nine of the paint chip samples contained lead in elevated concentrations. Intact lead based paint poses little risk of human exposure via the direct contact route. Peeling lead based paint however, as observed in portions of the complex buildings, or removal of lead based paint may release paint dust particles which can pose a health threat if inhaled by workers or nearby residential populations.

Capacitor Oil Sampling

The intent of oil sampling from damaged capacitor carcasses noted throughout the complex was to determine if the remaining oils contained PCBs in concentrations that pose potential human health and environmental risks to area populations and/or workers. Two (2) oil samples were collected from damaged capacitors for analysis. Both of the oil samples were collected by the immersion of the sample container directly into the oil. See Figure 5 for the location of the oils samples. Analysis of the two samples determined that neither contained PCBs at concentrations that exceeded Part 201 criteria.

DISCUSSION

Analysis of the surficial soil, capacitor oil, paint chip and asbestos samples collected during the BFRA detected the presence of lead in the surficial soils and paint chip samples and PCBs in one of the three surficial soil samples. Enough asbestos material is present in the complex to require removal and deposition or encapsulation under NESHAPS guidelines. Lead and PCBs were detected at concentrations greater than both the Generic Residential and Industrial Cleanup Criteria of Part 201 of the NREPA. Because these contaminants were detected at concentrations in excess of the Generic Residential Cleanup criteria, the Packard Plant Complex property qualifies as a facility under Part 201.

The major pathways of concern are direct contact and particulate migration of asbestos fibers or lead based paint dust particles during renovation or demolition.

Based on the findings of the BFRA investigation and the MDCH Health Consultation Assessment, the following issues should be addressed before or during the redevelopment of the Packard Plant Complex property:

- Bird droppings and carcasses were observed in numerous stairwells in the vacant portions of the complex buildings in particular Buildings 1, 9-7-8, and 92. Frequent exposure to bird droppings have been documented to be the cause of intestinal, lung or skin health problems in human beings.

- Further investigation of a suspected UST area in the north west portion of the complex outside Building 9. Stand up pipes from the concrete pad, a small brick pump house, pipe vents along the outer wall of Building 9 and flushed mounted metal manhole covers would seem to indicate the presence of one or more USTs under the concrete pad.

- Removal of approximately 500,000 used tires piled into the first floor at the south end of Building 38. Tires, present in such a large quantity, can be deemed a fire and environmental hazard. Additional piled tires are located in the second floor of Building 92.

- Sampling of drum contents and removal of all drums and containers found throughout the complex, especially on the first floor of Building 23, the fifth floor of Building 18-16-11-12 and the fourth floor of Building 92.

- Removal of scattered debris including empty 55-gallon drums, 5-gallon buckets, wooden pallets, construction materials, old office furniture, tires, bundled rags, piled plastic pellets and other material noted during building audit walk through. This debris are located in Buildings 10, 11, 12, 1, 5, 4 and especially Building 23.

- Increased security may prevent further dumping of refuse and other materials around the exterior of Building 92.

- All regulated asbestos containing material (ACM) in the complex should either be removed from the buildings or encapsulated during any revitalization of the structures. Removal of ACM must follow National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. Asbestos observed in the tenant occupied areas of the complex (first floors of Buildings 2,4,4C,10,10C,15,15C, 17, 17C, 19, 19C, 21, 31 31C) were well maintained and pose little to no risk to the workers. Asbestos observed in the vandalized or vacant portions of the complex was torn and hanging from the pipes or scattered over the floors exposing the fibers and creating a risk of inhalation exposure.

- Elevated concentrations of lead in paint throughout the complex. Intact lead based paint poses little threat to human exposure via the direct contact route. However, peeling lead based paint which was observed in portions of the complex buildings or removal of lead based paint during renovation, may release paint particle dust which may pose an inhalation threat to workers and nearby resident populations.

BIBLIOGRAPHY

1. MDEQ, ERD Brownfield property files, Packard Plant, Wayne County

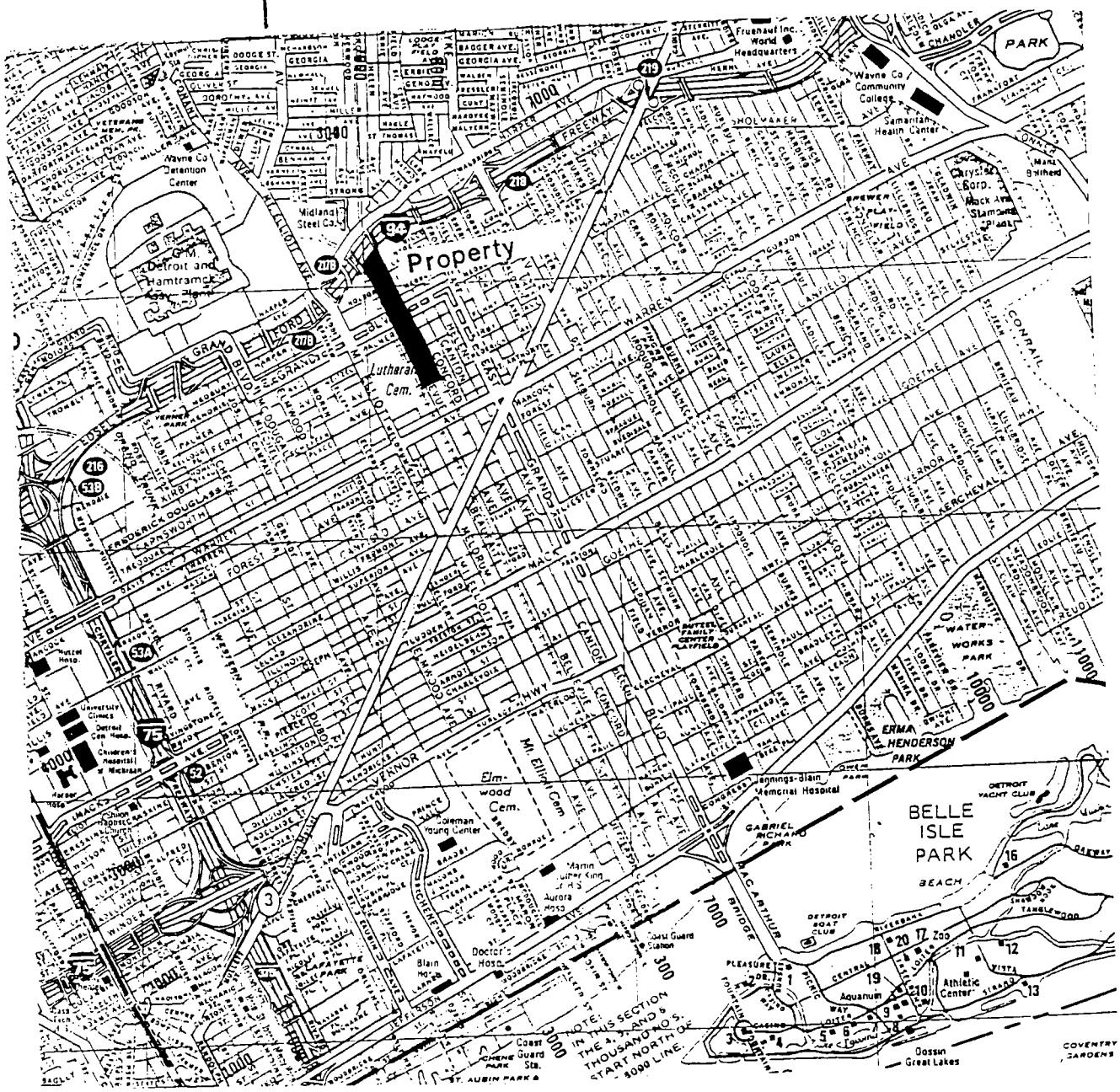
2. Sanborn Fire Insurance Maps of the Packard Plant, 1915, 1951 and 1991

3. Fairbanks, Cindy, Field notes and photographs of Building Audit of the Packard Plant Complex, July and August 1997

FIGURES

FIGURE 1

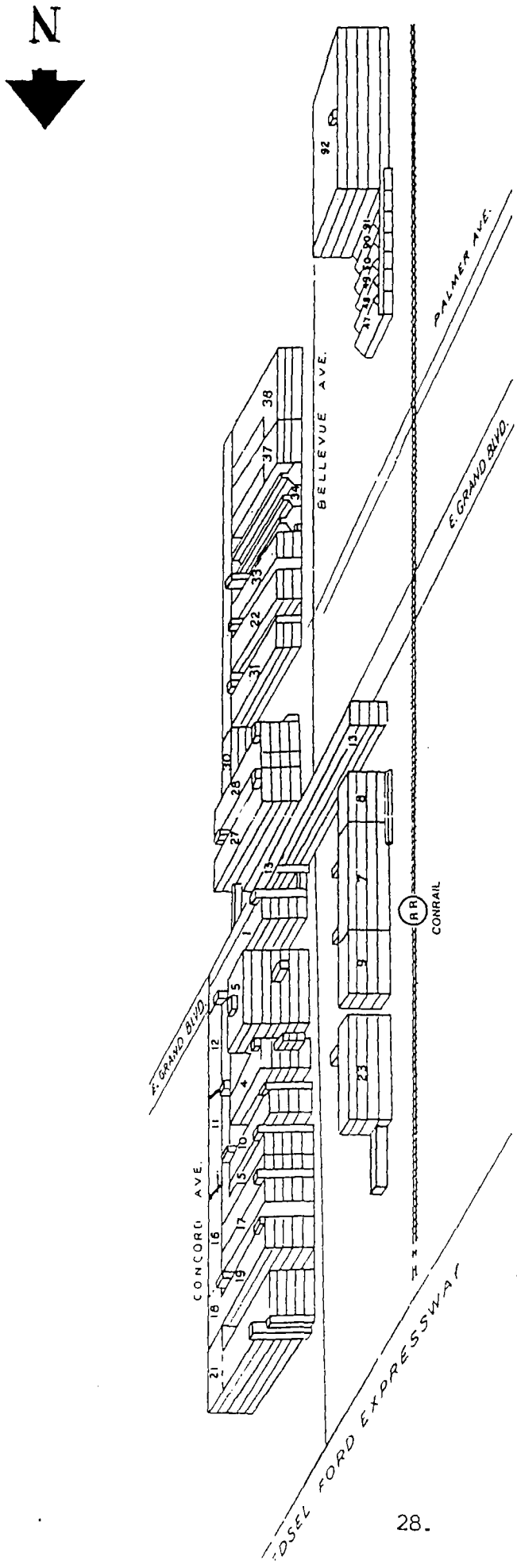
PROPERTY LOCATION MAP



MAP NOT TO SCALE

FIGURE 1A

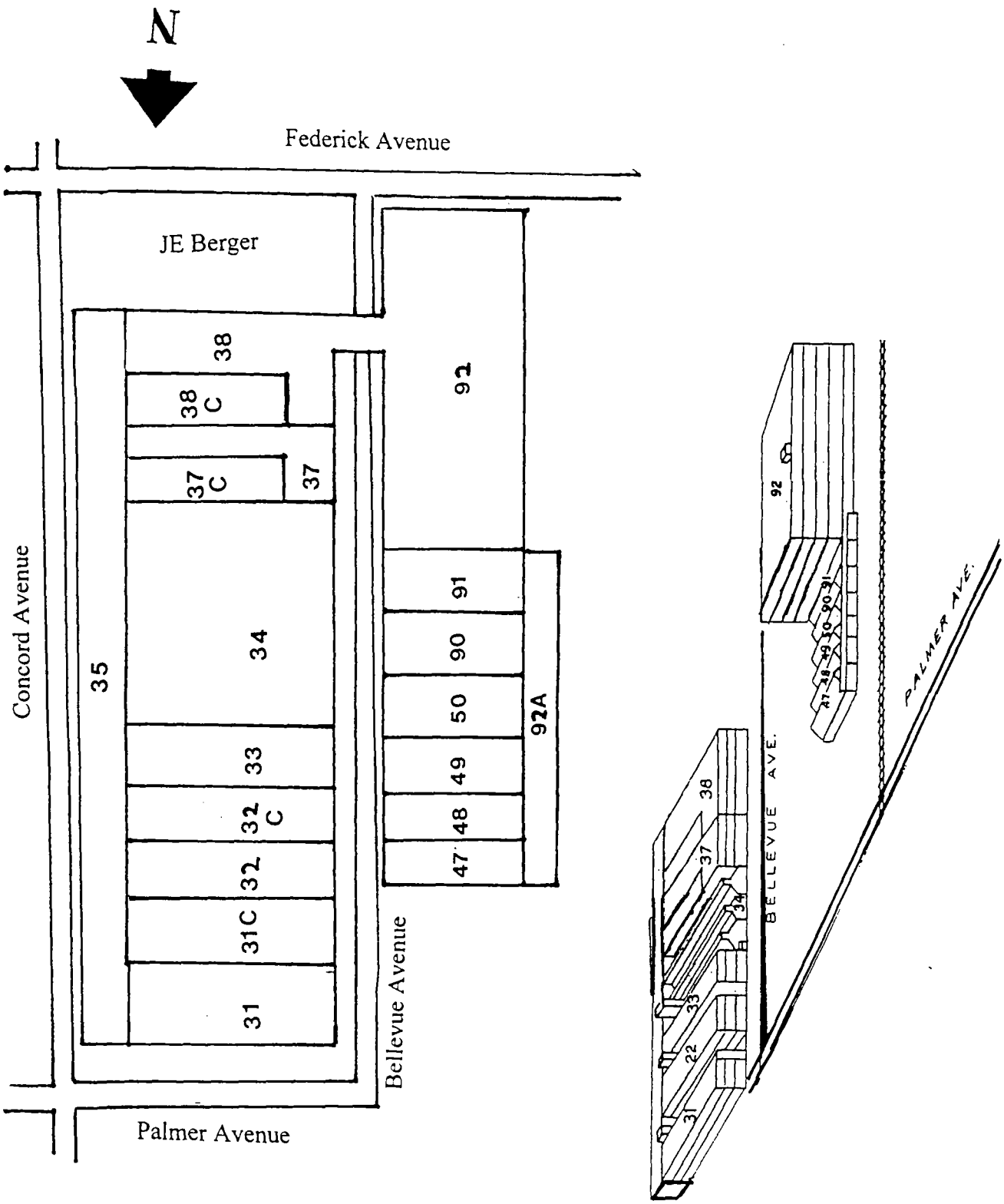
PROPERTY FEATURES



Map Not to Scale

FIGURE 2

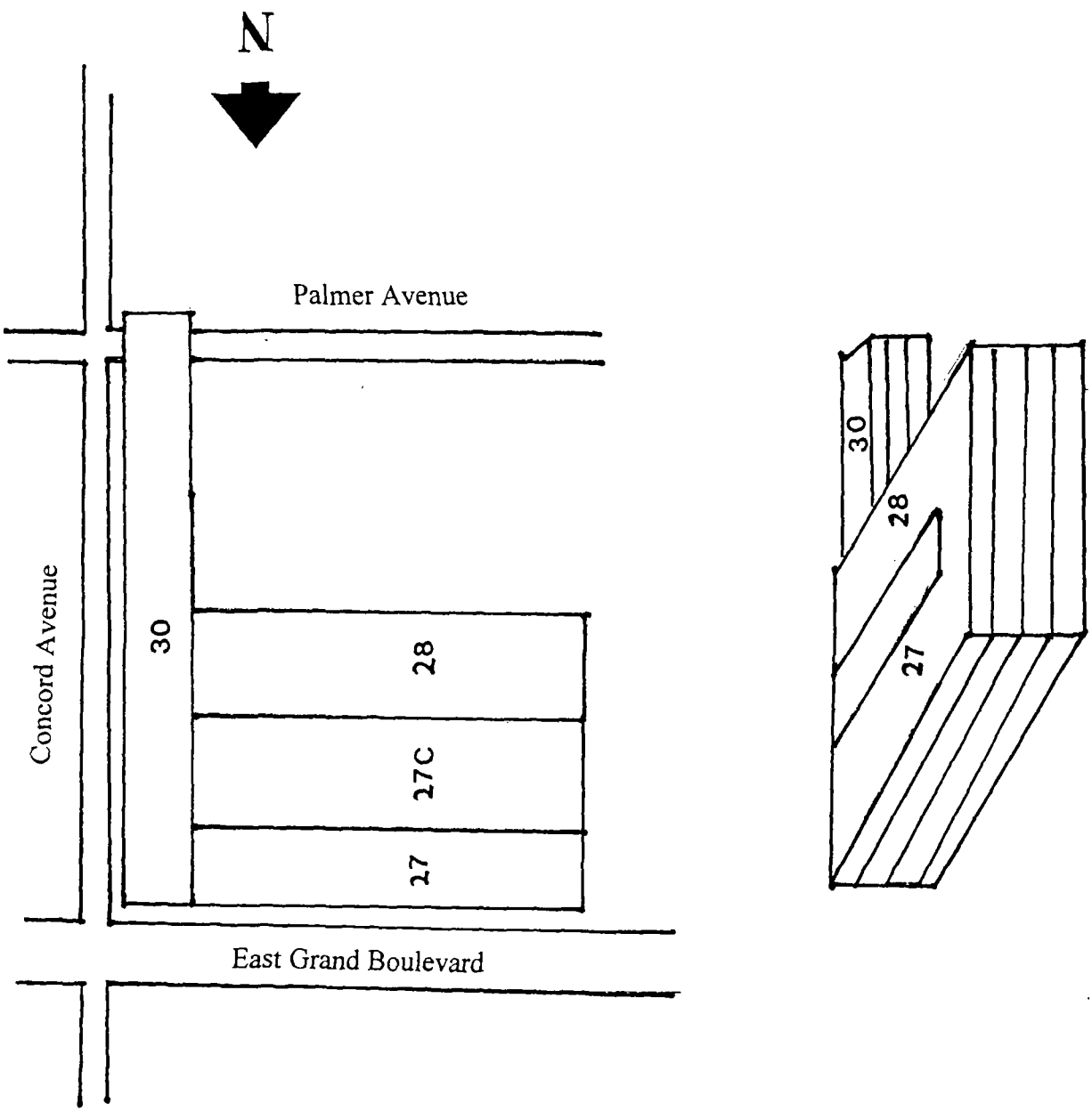
PACKARD PLANT - SOUTH COMPLEX



Map Not to Scale

FIGURE 3

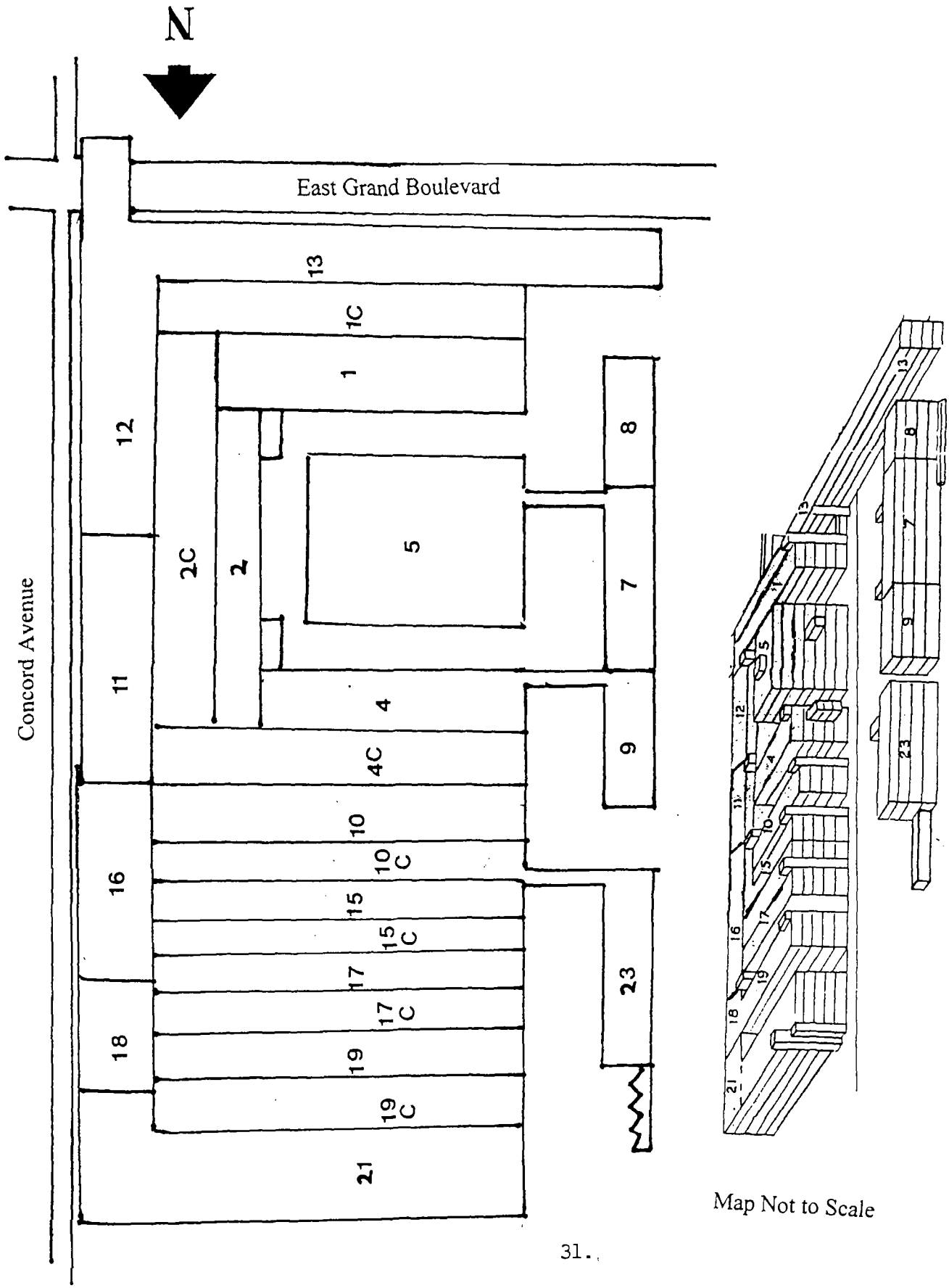
PACKARD PLANT - CENTRAL COMPLEX



Map Not to Scale

FIGURE 4

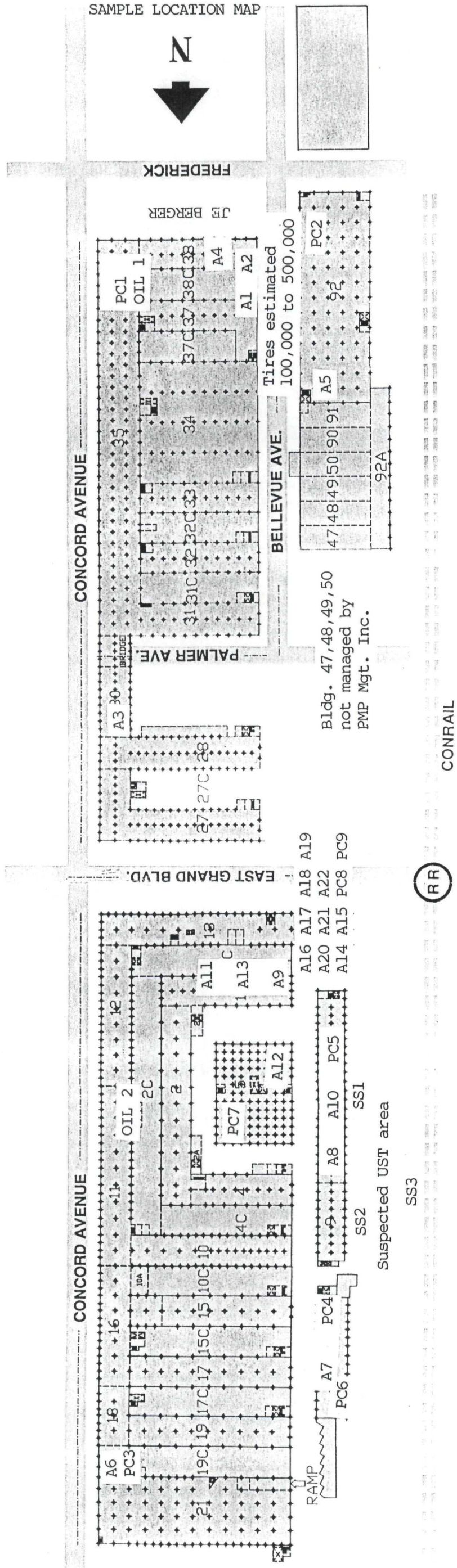
PACKARD PLANT - NORTH COMPLEX



Map Not to Scale

TABLES

FIGURE 5



K E Y

A1 Asbestos Sample Location

OIL 1 Oil Sample Location

P1 Paint Chip Sample Location

SS1 Surfacial Soil Sample Location

MAP SCALE UNKNOWN

TABLE 1

SOIL SAMPLE DESCRIPTIONS

SAMPLE#	LOCATION	APPEARANCE	DEPTH	DESIGNATION
SS1	Area of stained soil west of Bldg. 7 and east of railroad tracks	Black, crumbly, dry	surficial scrape	Surficial sample
SS2	Collected from soil on floor of pump house by west wall of Bldg. 9.	Black to gray granular soil, dry, some paint chips mixed in	surficial scrape	Surface sample
SS3	Area of oil stained soil by leaking drums located near railroad tracks west of Bldg. 7.	Black, wet oily soil	surficial scrape	Surface sample

TABLE 2

SOIL SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	PART 201 RESIDENTIAL DIRECT CONTACT CLEANUP CRITERIA	PART 201 INDUSTRIAL DIRECT CONTACT CLEANUP CRITERIA
SS1	Lead	950 mg/kg	400 mg/kg	400 mg/kg
SS2	PCBs	1,910 ug/kg	1,200 {T} ug/kg	9,900 {T} ug/kg
	Lead	5,400 mg/kg	400 mg/kg	400 mg/kg
SS3	NO CONTAMINANTS DETECTED ABOVE PART 201 CRITERIA.			

{T}: Refer to the Toxic Substances Control Act (TSCA), Subpart G - PCB Spill Cleanup Policy to determine the applicability of TSCA cleanup standards. Use Part 201 cleanup criteria where TSCA standards are not applicable.

µg/kg = microgram/kilogram (parts per billion (ppb)).
mg/kg = milligram/kilogram (parts per million (ppm)).

A total of three (3) soil samples were collected during the BFRA.

TABLE 3

PAINT CHIPS SAMPLE DESCRIPTIONS

SAMPLE#	LOCATION	APPEARANCE	DEPTH	DESIGNATION
PC1	Column located on third floor of Bldg. 38, SE corner.	Mixture of white, green and gray paint	surficial scrape	Surficial grab sample
PC2	Column located on third floor of Bldg. 92 at Bellevue connector entrance.	Mixture of white and gray paint	surficial scrape	Surficial grab sample
PC3	Square column located on third floor of Bldg. 18-21, NE corner.	Mixture of white and gray paint	surficial scrape	Surficial grab sample
PC4	Square column located on first floor of Bldg. 23.	Mixture of red, white and gray paint	surficial scrape	Surficial grab sample
PC5	Interior north wall on first floor Bldg. 9-8-7.	Mixture of grayish white and red paint	surficial scrape	Surficial grab sample
PC6	Square column on first floor Bldg. 23.	Mixture of red, gray and white paint	surficial scrape	Surficial grab sample
PC7	Column on fourth floor of Bldg. 5.	Mixture of gray and white paint	surficial scrape	Surficial grab sample
PC8	Wall of third floor hallway Bldg. 13, office wing.	Mixture of beige and yellow paint	surficial scrape	Surficial grab sample
PC9	Wall of center stairwell, third floor of Bldg. 13.	Mixture of beige and yellow paint	surficial scrape	Surficial grab sample

TABLE 4

PAINT CHIP SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION *
PC1	Lead	69,100 mg/kg
PC2	Lead	10,300 mg/kg
PC3	Lead	4,900 mg/kg
PC4	Lead	42,800 mg/kg
PC5	Lead	625 mg/kg
PC6	Lead	32,600 mg/kg
PC7	Lead	34,900 mg/kg
PC8	Lead	3,030 mg/kg
PC9	Lead	2,200 mg/kg

* Although there is currently no established Part 201 Criteria for lead particulate released from lead based paint, the following Part 201 Criteria have been established and are noted here:
Residential and Industrial Direct Contact: 400 mg/k
Particulate Soil Inhalation Criteria Residential: 1.0E+5 mg/kg
Particulate Soil Inhalation Criteria Industrial: 4.4E+4 mg/kg

mg/kg = milligram/kilogram (parts per million (ppm)).

A total of nine (9) paint chip samples were collected during the BFRA.

TABLE 5

CAPACITOR OIL SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	PART 201 RESIDENTIAL DIRECT CONTACT CLEANUP CRITERIA	PART 201 INDUSTRIAL DIRECT CONTACT CLEANUP CRITERIA
Oil 1	NO CONTAMINANTS DETECTED ABOVE PART 201 CRITERIA			
Oil 2	NO CONTAMINANTS DETECTED ABOVE PART 201 CRITERIA			

APPENDIX A

BFRA PROPERTY PHOTOGRAPHS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 1 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Portion of tires crammed into first floor room in Building 38; tires facing onto Bellevue Avenue.

DATE: 7/29/1997

DESCRIPTION:
Third floor of Building 38 looking west to east.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 2 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Lead vent pipe on roof of Building 34 as seen from third floor of Building 35.

DATE: 7/29/1997

DESCRIPTION:
Third floor walkover Palmer Avenue looking toward the Central Complex- Building 28.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 3 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Walkover Palmer Avenue from Building 31 looking north to Building 28.

DATE: 7/29/1997

DESCRIPTION:
Flokey scrap metal storage area near Building 28.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 4 OF: 39

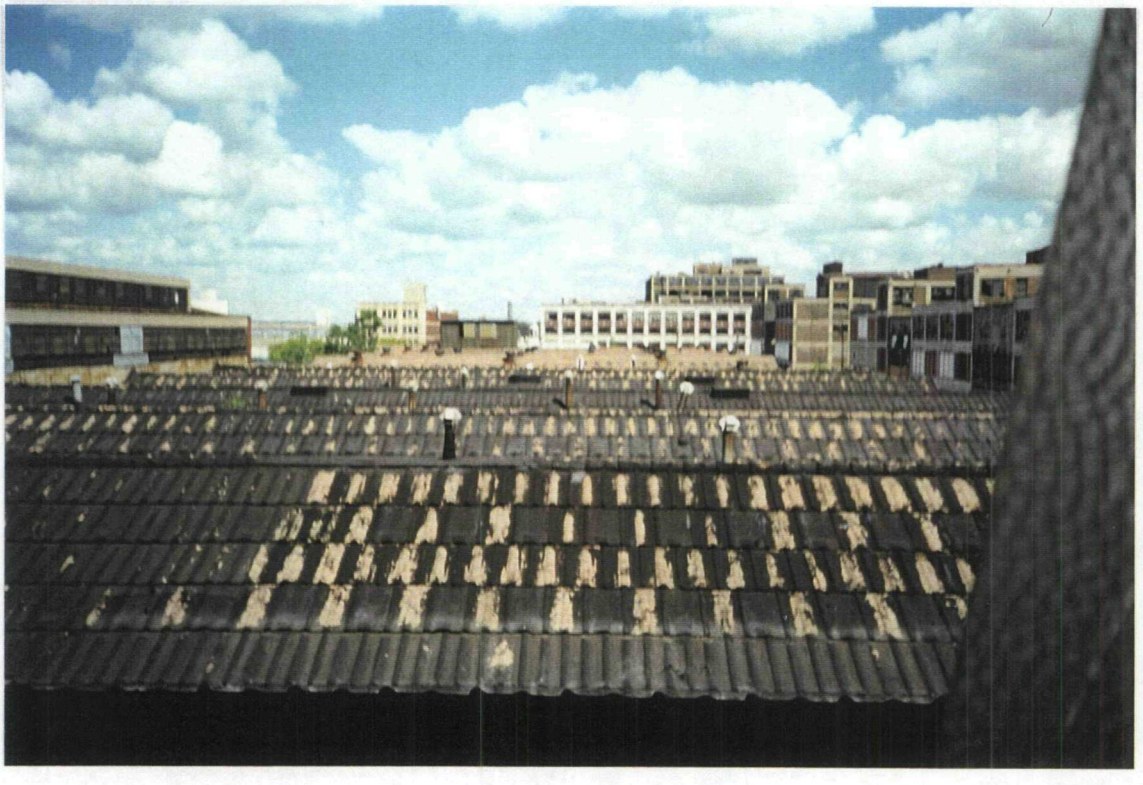
U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third floor of Building 92.

DATE: 7/29/1997



DESCRIPTION:
Rooftops of Buildings 91,90,50,49,48,47 looking north from third floor of Building 92.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 5 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Asbestos pipewrap (aircell) in bathroom on the third floor of Building 92, northeast corner of floor.

DATE: 7/29/1997

DESCRIPTION:
Fourth Floor of Building 92.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 6 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Fifth Floor of Building 92.

DATE: 7/29/1997

DESCRIPTION:
Third Floor of Building 35, looking north toward Palmer Walkover, north end of floor.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 7 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third Floor of Building 35 looking north , south end of floor.

DATE: 7/29/1997

DESCRIPTION:
Third Floor of Building 37.

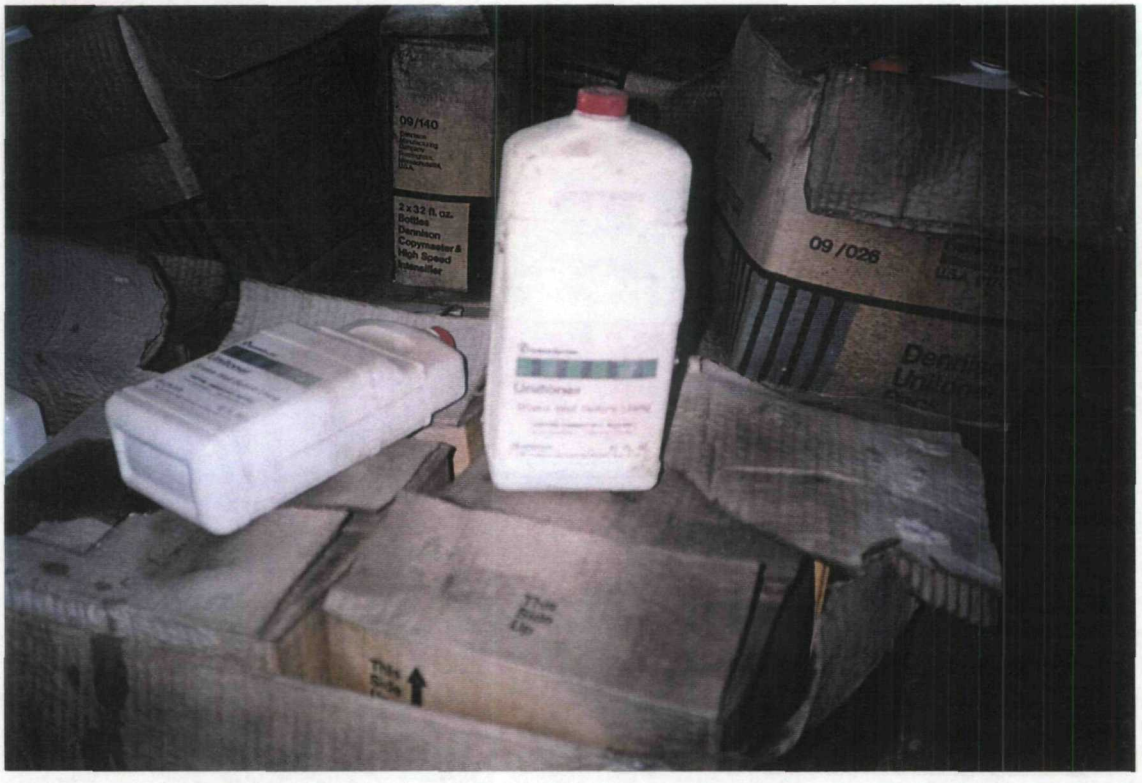
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 8 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
Dennison Unitoner, flammable material piled on Fourth Floor of Building 92 in the northwest corner. VOA reading of 300+ ppm.

DATE: 7/29/1997

DESCRIPTION:
Third Floor of Building 37.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 9 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Asbestos pipewrap (aircell) near bathroom on third floor of Building 92, northeast corner of floor.

DATE: 7/29/1997

DESCRIPTION:
Peeling paint from column on third floor of Building 92.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 10 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third Floor of Building 32.

DATE: 7/29/1997

DESCRIPTION:
Third Floor of Building 33.

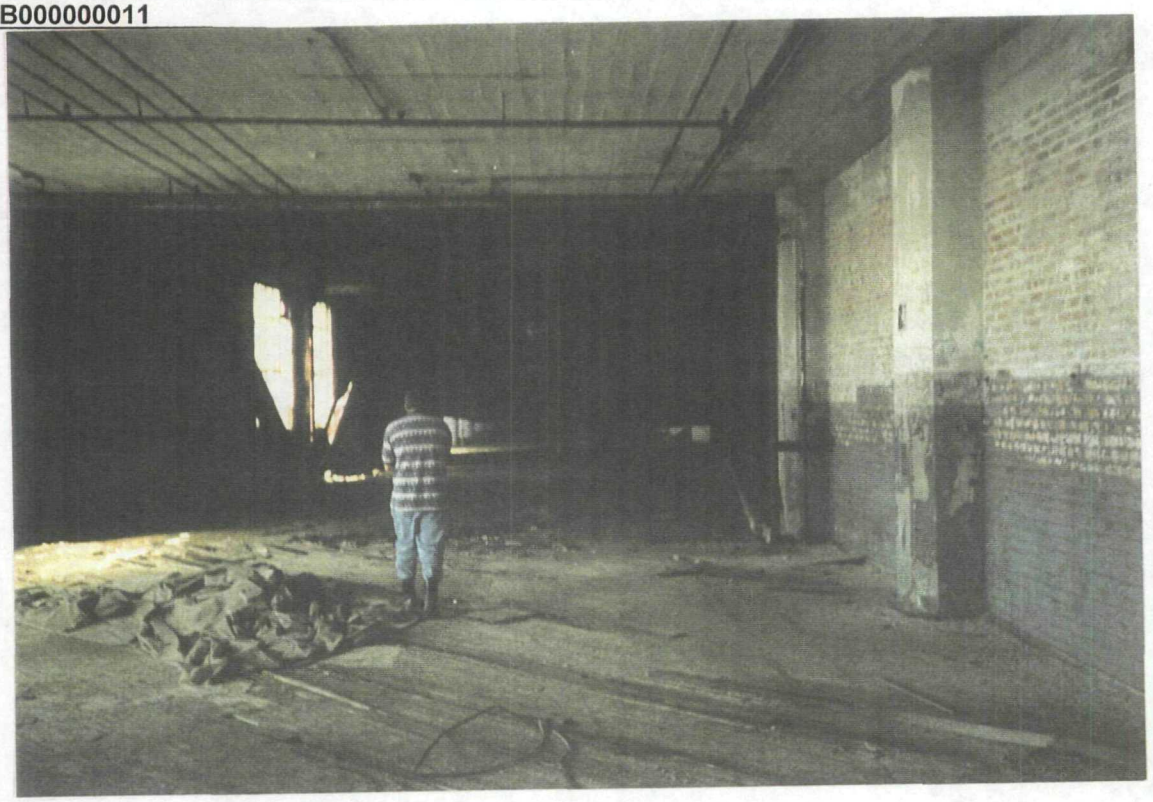
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 11 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
Third Floor walkover Bellevue Avenue connecting Building 38 with Building 92.

DATE: 7/29/1997

DESCRIPTION:
Fifth Floor of Building 92.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 12 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Fifth Floor Building 92.

DATE: 7/29/1997

DESCRIPTION:
Piled 5 gallon containers at northeast corner on roof of Building 92. Assumed once held asphalt roof patch material.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 13 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Piled 5 gallon buckets on roof of Building 92 at the southeast corner.

DATE: 7/29/1997

DESCRIPTION:
Capacitor room at top of elevator shaft on Building 92; vandalized, oil stained floor, carcasses scattered about.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 14 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Four 55 gallon drums along west outer wall of Building 7/8/9; one or all suspected of leaking.

DATE: 7/29/1997

DESCRIPTION:
Capacitor room at top of elevator shaft on Building 92; vandalized, oil stained floor, carcasses scattered about.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 15 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Four 55 gallon drums along west outer wall of Building 7/8/9; one or all suspected of leaking.

DATE: 7/29/1997

DESCRIPTION:
Area of three former transformers outside Building 7/8/9, stained soil and concrete pad.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 16 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Vent pipes along outer west wall of Building 9, northwest corner.

DATE: 7/29/1997

DESCRIPTION:
Underground piping system near pump house along outer west face of Building 9. Also suspected UST field.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 17 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Pipe sticks at northwest corner of Building 9.

DATE: 7/29/1997

DESCRIPTION:
Asbestos pipewrap (aircell) on horizontal pipe on second floor of Building 16/18.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 18 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Second Floor of Building 1, used by tenant to store old cars and other miscellaneous items.

DATE: 7/29/1997

DESCRIPTION:
Second Floor of Building 2 and 2C used by tenant for storage of miscellaneous items.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 19 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Asbestos pipewrap (aircell) on two vertical pipes in Building 2 and 2C.

DATE: 7/29/1997

DESCRIPTION:
Overhead walkway connector between Building 4 and Building 9. second floor.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 20 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Second Floor of Building 9/7/8, former plastics operation. South end of floor, fiberglass insulation.

DATE: 7/29/1997

DESCRIPTION:
Second Floor of Building 9/7/8, former plastics operation. North end of floor where evidence or previous fire noted.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 21 OF: 39

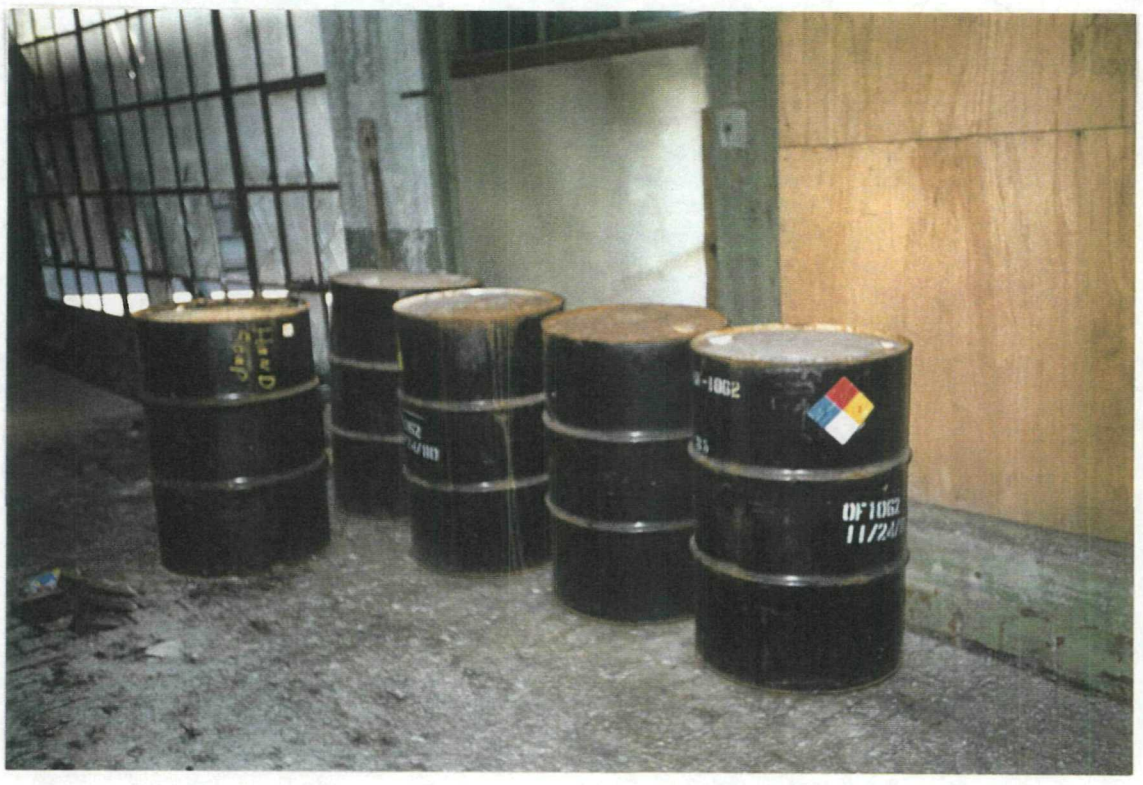
U.S. EPA ID #: **MIB000000011**

DATE: 7/29/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Upper floors of Building 10C.

DATE: 7/29/1997



DESCRIPTION:
Ground floor of Building 23, north end, 5 55 gallon metal drums.

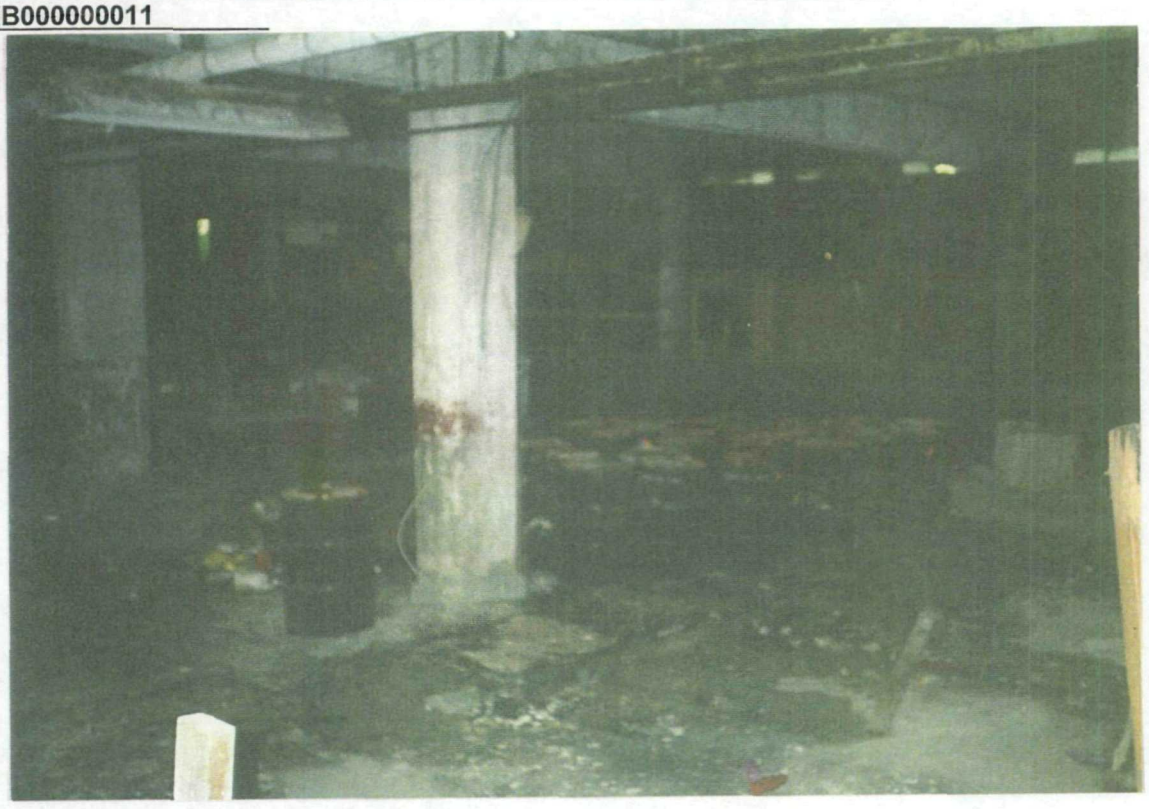
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 22 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
First Floor of Building 23, north end, observed 26 55 gallon metal drums.

DATE: 7/30/1997

DESCRIPTION:
First Floor of Building 23, south end, numerous 55 gallon drums under debris, both metal and plastic.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 23 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
First Floor of Building 23, boxed, bagged and piled rags and plastic material.

DATE: 7/30/1997

DESCRIPTION:
Second Floor of Building 23, looking south to north.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 24 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Second Floor of Building 1, capacitor carcasses left by former tenant, Dyna Power.

DATE: 7/30/1997

DESCRIPTION:
Second Floor of Building 1, capacitor carcasses left by former tenant Dyna Power.

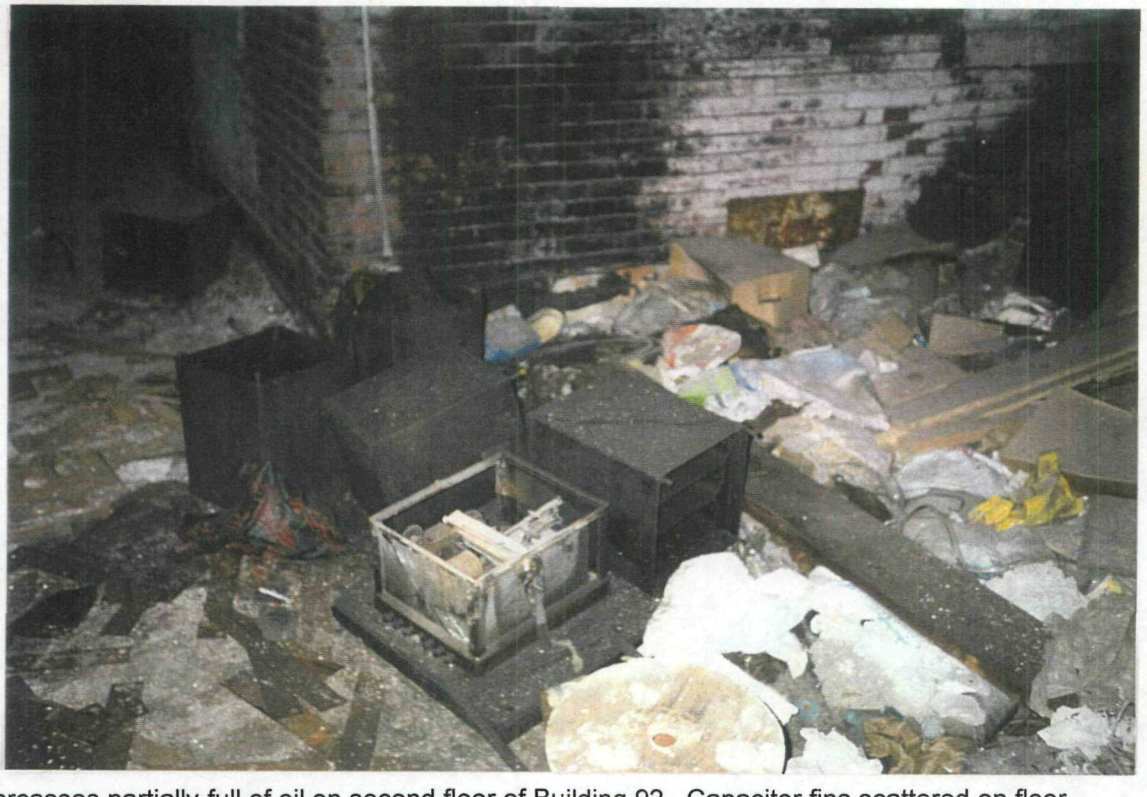
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 25 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
Seven capacitor carcasses partially full of oil on second floor of Building 92. Capacitor fins scattered on floor.

DATE: 7/30/1997

DESCRIPTION:
Second Floor of Building 30. tenant storage area for cars and boats.

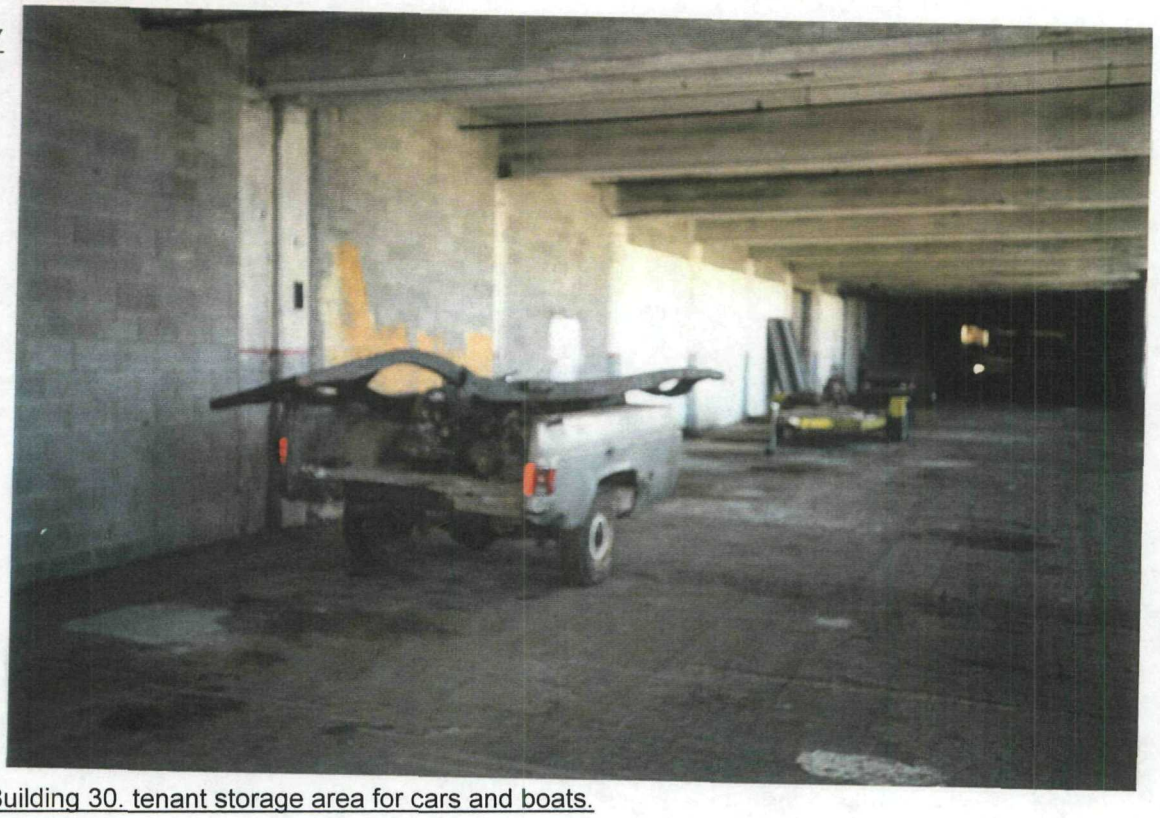
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 26 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
Second Floor of Building 30. tenant storage area for cars and boats.

DATE: 7/30/1997

DESCRIPTION:
Second Floor of Building 35.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 27 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Second Floor of Building 35, opening onto roof, 12 tires and numerous 5 gallon buckets scattered here.

DATE: 7/30/1997

DESCRIPTION:
Second Floor of Building 92, bathroom at northeast corner, piled tires and other debris.

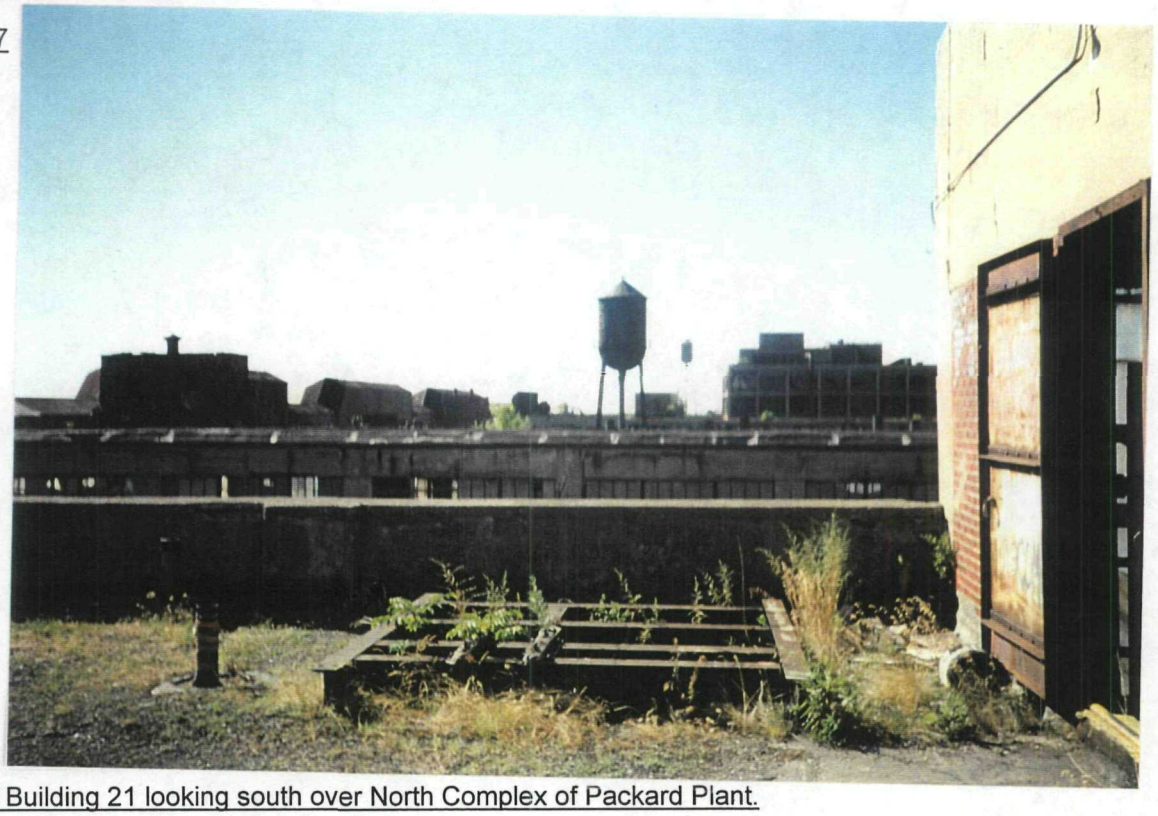
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 28 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
View from roof of Building 21 looking south over North Complex of Packard Plant.

DATE: 7/30/1997

DESCRIPTION:
Third Floor of Building 16/11, tenant storage room stacked with wooden doors, metal, Ford Motor Company files.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 29 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third Floor of Building 16/11/12.

DATE: 7/30/1997

DESCRIPTION:
Fourth Floor of Building 4.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 30 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Asbestos pipewrap (aircell) lying on fourth floor of Building 4.

DATE: 7/30/1997

DESCRIPTION:
Piled rags on Second Floor of Building 4.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 31 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Second Floor of Building 4, piled rags.

DATE: 7/30/1997

DESCRIPTION:
View from Second Floor of Building 4 to Second Floor of Building 10.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 32 OF: 39

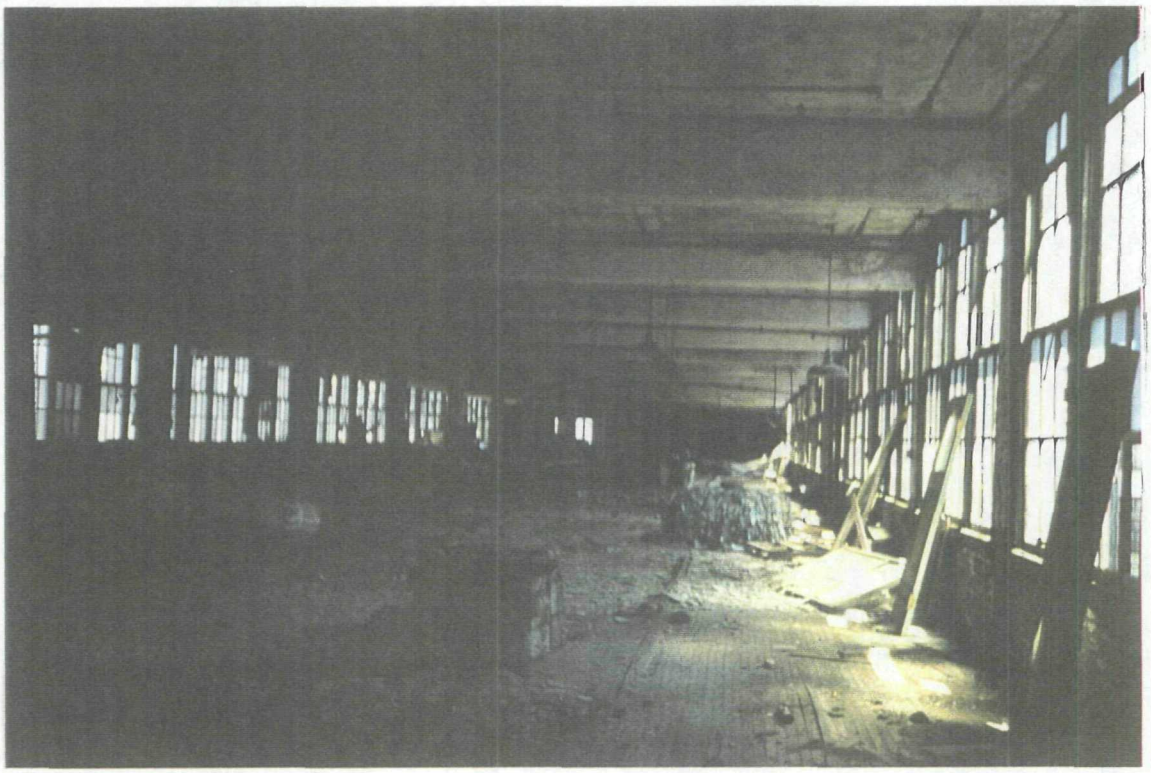
U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
55 gallon drum labeled Reichold Chemicals Resin Solution, OVA reading of 63.9 ppm, partially full on Fifth Floor of Building 12.

DATE: 7/30/1997



DESCRIPTION:
Fourth Floor of Building 10.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 33 OF: 39

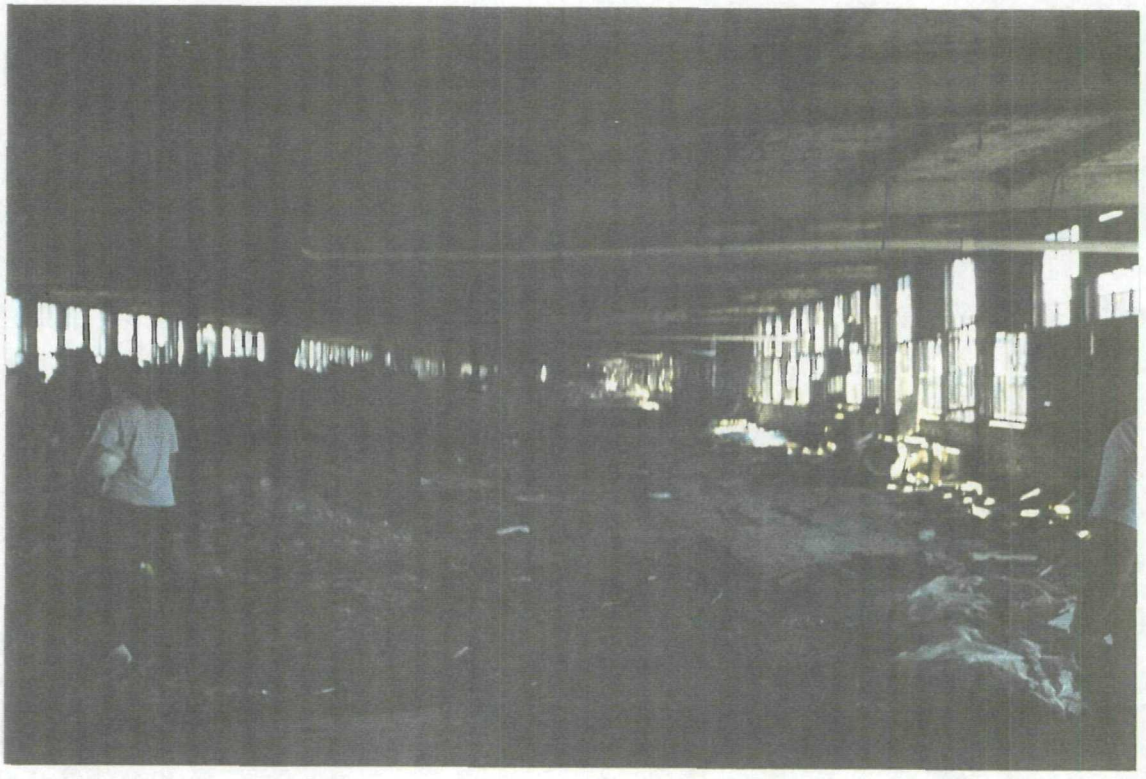
U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Fifth Floor of Building 12, piled wooden pallets, car parts, boats, drums other miscellaneous debris.

DATE: 7/30/1997



DESCRIPTION:
Fifth Floor of Building 18/16/11/12.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 34 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
View of upper floors of Building 5 from Fifth Floor of Building 11/12.

DATE: 7/30/1997

DESCRIPTION:
View of Fourth Floor of Building 27 from Fourth Floor of Building 28.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 35 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third Floor of Building 23.

DATE: 7/30/1997

DESCRIPTION:
Fourth Floor of Building 23.

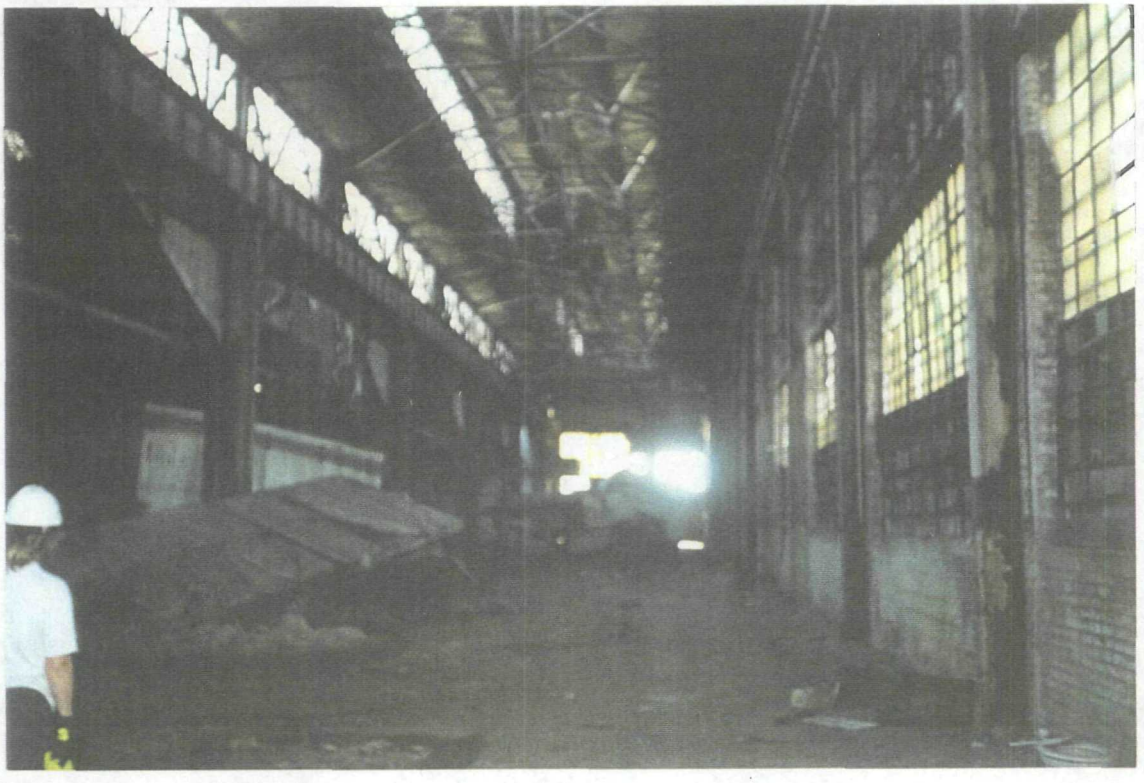
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 36 OF: 39

U.S. EPA ID #: **MIB000000011**

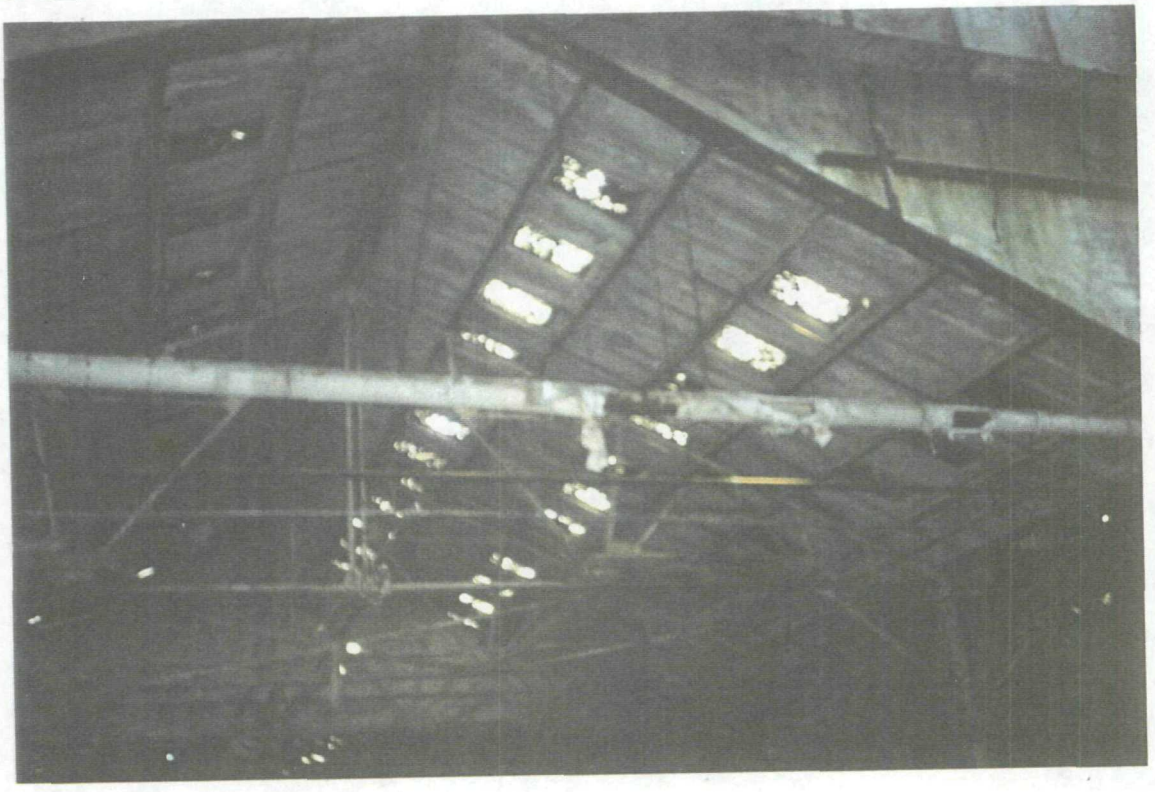
DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS



DESCRIPTION:
First Floor of Building 92A.

DATE: 7/30/1997



DESCRIPTION:
Asbestos pipewrap (aircell) on ceiling pipes in First Floor of Building 90 and 91.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 37 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Asbestos pipewrap (aircell) on pipes in southeast corner ceiling of first floor of Building 90 and 91.

DATE: 7/30/1997

DESCRIPTION:
Third Floor of Building 18/16/11/12.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 38 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
Third Floor of Building 28.

DATE: 7/30/1997

DESCRIPTION:
Fourth Floor of Building 28.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 39 OF: 39

U.S. EPA ID #: **MIB000000011**

DATE: 7/30/1997

PHOTOGRAPH BY:
FAIRBANKS

DESCRIPTION:
FloKey storage yard between Building 28 and Palmer Avenue.

APPENDIX B

MDCH HEALTH CONSULTATION REPORT

APPENDIX C

MDCH ASBESTOS ANALYSIS

ASBESTOS IDENTIFICATION SURVEY

Conducted at Packard Plant Complex

1580 East Grand Boulevard
Detroit, Michigan

Asbestos Survey Summary

The Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants (NESHAP); Asbestos NESHAP Revision; 40 CFR part 61, Section 61.145 (a) requires property owners or operations of a demolition or renovation activity to thoroughly inspect the affected facility or part of the facility where a demolition or renovation operation will occur, for the presence of asbestos. This inspection must be conducted prior to the commencement of the demolition and/or renovation activities in order to establish what specific obligations under the NESHAP standard are applicable. This inspection must be performed by an individual who possesses the appropriate training and/or a valid building inspector accreditation card as specified by ACT 440, P.A. of 1988, as amended.

On July 29 - 31 and August 5, 1997, three representatives from the Pre-Remedial Program conducted a building inspection in accordance with the aforementioned section. The inspection was performed at the Packard Plant Complex property located at 1580 East Grand Boulevard, Detroit, Michigan.

As a result of this inspection, it was determined that the Packard Plant Complex buildings contained more than 260 linear feet and/or 160 square feet of friable asbestos-containing materials (ACM) and that the requirements set fourth in Section 61,145, paragraphs (b) and (c) of the National Standards for Hazardous Air Pollutants, Asbestos NESHAP Revision; Final Rule, are applicable and should be thoroughly reviewed prior to the commencement of any demolition or renovation activities at the property.

Also be advised that while every attempt was made to identify all ACM present at the property, ACM may still be present within wall spaces, pipe chases, plenums or other structures and not identified at the time of our inspection due to inaccessibility. Additional inspections in these areas to determine the presence and quantity of ACM may be required prior to any demolition or renovation activities undertaken at the property.

Homogeneous Area Locator

HA#

HA001-01

Homogeneous Area Location

Pipe wrap from basement of building 38; wrap around 6" diameter pipe; ~60 linear feet observed along wall; gray air cell

Also observed mudded joint, white, friable, fibrous asbestos

Photo 1

HA#

HA002-01

Homogeneous Area Location

Pipe wrap from basement of building 38; wrap from 6" diameter pipe had been torn away from pipes and piled on the floor; gray air cell; ~160 linear feet estimated to lie on the floor

Photo2

Homogeneous Area Locator

HA#

HA003-01

Homogeneous Area Location

Pipewrap from pipe in ceiling in third floor of Building 28. Sample taken from wrap lying on the floor; gray aircell;
~100 linear feet observed on ceiling pipe
~120 linear feet observed on ceiling pipe in Palmer Avenue connector, third floor
mudded joints of white, friable, fibrous asbestos obsered along pipe joints
Photo 3

HA#

HA004-01

Homogeneous Area Location

Floor tile from 3rd floor of Building 38
9"*9" red with white streaked pattern squares
Black asphalt type material in mastic
20'*120' = 2400 ft² estimated observed

Photo 4

Homogeneous Area Locator

HA#

HA005-01

Homogeneous Area Location

Pipewrap from pipe in bathroom on fourth floor of Building 92, northeast corner; 2" diameter pipe, ~40 linear feet of wrap observed; gray circell

Similar pipewrap observed in bathrooms on all floors of Building 92, except first floor.

Photo 5

HA#

HA006-01

Homogeneous Area Location

Pipewrap from vertical pipe along wall, third floor of building 18 near parking ramp area, northeast corner of building; gray circell, ~ 50 linear feet observed on three pipes; assume similar material on second floor

Photo 6

Homogeneous Area Locator

HA#

HA007001

Homogeneous Area Location

Pipe wrap from ceiling pipe on first floor of Building 23; sample collected from wrap fallen from pipes and lying on the floor; white, friable, fibrous asbestos; ~260 linear feet observed

Photo 7

HA#

HA008-01

Homogeneous Area Location

Pipewrap around verticle pipe along wall on first floor of Building 7; gray aircell, wrap around 2" diameter pipe; ~20 linear feet observed
~20 linear feet observed on second floor

Photo 8

Homogeneous Area Locator

HA#

HA009-01

Homogeneous Area Location

Floor tile, from second floor office area Building 1 and 1C, Southwest corner of floor; 9"x9" square tile blue/green color, most of tile crumbly and broken ~20'*20'= 140 square feet observed

Photo 9

HA#

HA010-01

Homogeneous Area Location

Woven pipe wrap from 1" diameter pipe in ceiling on second floor of Bldg 8; sample collected from portion of wrap lying on floor; black woven material ~130 linear feet observed

Photo not available

Homogeneous Area Locator

HA#

HA011-01

Homogeneous Area Location

Pipe wrap from ceiling pipe on fourth floor of Building 1; sample collected from portion of wrap lying on floor; gray aircell; 2" diameter pipe ~100 linear feet of wrap observed

Photo 10

HA#

HA012-01

Homogeneous Area Location

Pipe wrap from verticle pipe along wall on fourth floor of Building 1 near bathroom along west wall center of floor; gray aircell asbestos; ~30 linear feet observed; Similar asbestos pipewrap observed on all seven floors of building in and near bathrooms on all floors.
Approximate total: 210 linear feet

Photo 11

Homogeneous Area Locator

HA#

HA018-01 * out of sequence

Homogeneous Area Location

Block shaped surfacing compound found in furnace room of Building 1 office area, south wing, south west corner. ~ 40'*40' = 1600 square feet observed white, powdery material with fibers observed. "Pyrobar" stamped on all blocks

Photo 12

HA#

HA-014-01

Homogeneous Area Location

Floor tile, fourth floor office area of Building 13; 9"*9" squares alternating as red or tan solid color

Photo not available

Homogeneous Area Locator

HA#

HA015-01

Homogeneous Area Location

Ceiling tile, fourth floor west end of Building 13. Tiles 2'x4' rectangles, squiggly worm trace pattern ~28'x72' observed

Photo not available

HA#

HA016-01

Homogeneous Area Location

Ceiling tile, fourth floor office area of Building 13. 9"x9" square, white with polka dot hole pattern. Tiles cover entire ceiling of floor, hallway.

Photo not available.

Homogeneous Area Locator

EA#

HA017-01

Homogeneous Area Location

Ceiling tile, fourth floor of Building 13 office area. 9"x9" squares, white, deep groved pattern ~30'x30' observed.

Photo not available

EA#

HA013-01 * out of sequence

Homogeneous Area Location

Surfacing compound from wall near elevator shaft Building 1, room at southwest corner 2nd floor. ~40'x40' observed

Photo not available

Homogeneous Area Locator

HA#

HA019-01

Homogeneous Area Location

Floor tile, fourth floor office area of Building 13
9"*9" square, alternating solid tan or black color
~10'*300' observed

Photo not available

HA#

HA020-01

Homogeneous Area Location

Ceiling tile, third floor of office area, Building 13
9"*9" square, solid white, no pattern
~10'*300' observed

Photo not available

Homogeneous Area Locator

EA#

HA021-01

Homogeneous Area Location

Ceiling tile, third floor office area of Building 13.
12"*12" square, white with rippled grooved pattern
~12'*20' observed

Photo not available

EA#

HA022-01

Homogeneous Area Location

Ceiling tile, third floor office area of Building 13.
2'*4' rectangle, white with bird track design.
~74'*74' observed

Photo not available.

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

MOD Date	1. Reporting ID	2. Inspection Number	3. Sampling Number ▶ 913220109

4. Establishment Name: Packard Plant

5. Person Performing Sampling (Signature)	6. CSHO ID	7. Sampling Date	8. Shipping Date
Cindy Stoudenmire		7/31/97	8/1/97

9. Employee (Name, Address, Telephone Number)
MDEQ-ERD-Superfund
PO Box 30426
Lansing, MI 48909

13. Exposure Information	a. Number	b. Duration
c. Frequency		

14. Weather Conditions	15. Photo(s)
	Y

10. Job Title: Asbestos Samples (Bulk) | 11. Occupation Code

12. PPE (Type and Effectiveness)

16. Pump Checks and Adjustments

17. Job Description, Operation, Work Location(s), Ventilation, and Controls

Brownfield investigation, pipe wrap, Pyrobar block, ceiling tiles, floor tiles from old factory building

Cont'd.

18. Pump Number:

Sampling Data

19. Sample Type/Media	B	B	B	B	B	B
20. Filter/Tube No.						
21. Sample Submission No.	HA001-01	HA002-01	HA003-01	HA004-01	HA005-01	HA006-01
22. Time On/Off						
23. Total Time (in minutes)						
24. Flow Rate ☐ l/min ☐ cc/min						
25. Volume (in liters)						
26. Net Sample Weight (in mg)						

Exposure Summary

27. Line No.	28. Substance Code	29. Rqstd.	30. Smpl. Type	31. Exp. Type	32. Exposure Level	33. Units	34. PEL	35. Adj.	36. Severity	37. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
1.	9020	L	B														
2.																	
3.																	
4.																	

38. Additives (Enter Line Numbers for those agents contributing to additive effect.)

39. Total Number of Lines (27)	40. Date Results Received from Laboratory	Case File Page of

OSHA-91(S) (Rev. 3/90)

Pre-Sampling Calibration Records

Pre

41. Pump Mfg. & SN	44. Flow Rate Calculations			
42. Voltage Checked? ☐ Yes ☐ No				
43. Location/T & Alt.	45. Flow Rate	46. Method ☐ Bubble ☐ PR	47. Initials	48. Date/Time

Post-Sampling Calibration Records

Post

49. Location/T & Alt.	50. Flow Rate Calculations	
51. Flow Rate	52. Initials	53. Date/Time

Sample Weight Calculations

54. Filter No.						
55. Final Weight *(mg)*						
56. Initial Weight *(mg)*						
57. Weight Gained *(mg)*						
58. Blank Adjustment						
59. Net Sample Weight *(mg)*						

Laboratory Results	HA001-01	HA002-01	HA003-01	HA004-01	HA005-01	HA006-01
60. Lab Sample No. →	973960	973961	973962	973963	973964	973965
61. Substance	Results					
a. 9020	40% chrysotile	20% chrysotile	5% chrysotile	Talc-2% chrysotile	30% chrysotile	40% chrysotile
b.				silica - NOC 9%		
c.						
d.						

62. Interferences and IH Comments to Lab

63. Chain of Custody

a. Seals Intact	(Y) N	
b. Received in Lab	8-4-97	754 mm.R
c. Received by Analyst		
d. Analysis Complete	F-13-97	961 MR
e. Calculation Checked	8-13-97	MR
f. Supervisor Ok.	13 Aug 97	HK

64. Supporting Samples

a. Blanks:

b. Bulks:

c. Other:

65. Analyst's Comments

66. Calculations and Field Notes

☆ U.S. GOVERNMENT PRINTING OFFICE: 1993-361-398

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

MOD Date	1. Reporting ID	2. Inspection Number	3. Sampling Number ▶ 913220117

4. Establishment Name: Packard Plant

5. Person Performing Sampling (Signature)	6. CSHO ID	7. Sampling Date	8. Shipping Date
Cindy S Tomlinson		7/31/97	8/1/97

9. Employee (Name, Address, Telephone Number)
MDEQ-ERD-Superfund
PO Box 30426
Lansing, MI 48909

13. Exposure Information	a. Number	b. Duration
c. Frequency		

14. Weather Conditions	15. Photo(s)
	Y

10. Job Title: Asbestos Samplers (Bulk)

11. Occupation Code

12. PPE (Type and Effectiveness)

16. Pump Checks and Adjustments

17. Job Description, Operation, Work Location(s), Ventilation, and Controls

Brownfield Investigation, pipe wrap, Pyrobar block, ceiling tiles, floor tiles from old factory building

Cont'd.

18. Pump Number:

Sampling Data

19. Sample Type/Media	B	B	B	B	B	B
20. Filter/Tube No.						
21. Sample Submission No.	HA007-01	HA008-01	HA009-01	HA010-01	HA011-01	HA012-01
22. Time On/Off						
23. Total Time (in minutes)						
24. Flow Rate ☐ l/min ☐ cc/min						
25. Volume (in liters)						
26. Net Sample Weight (in mg)						

Exposure Summary

27. Line No.	28. Substance Code	29. Rqstd.	30. Smpl. Type	31. Exp. Type	32. Exposure Level	33. Units	34. PEL	35. Adj.	36. Severity	37. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
1.	9020	L	B														
2.																	
3.																	
4.																	

38. Additives (Enter Line Numbers for those agents contributing to additive effect.)

39. Total Number of Lines (27)	40. Date Results Received from Laboratory	Case File Page of

OSHA-91(S) (Rev. 3/90)

Pre-Sampling Calibration Records

Pre

41. Pump Mfg. & SN	44. Flow Rate Calculations			
42. Voltage Checked? ☐ Yes ☐ No				
43. Location/T & Alt.	45. Flow Rate	46. Method ☐ Bubble ☐ PR	47. Initials	48. Date/Time

Post-Sampling Calibration Records

Post

49. Location/T & Alt.	50. Flow Rate Calculations	
51. Flow Rate	52. Initials	53. Date/Time

Sample Weight Calculations

54. Filter No.						
55. Final Weight *(mg)*						
56. Initial Weight *(mg)*						
57. Weight Gained *(mg)*						
58. Blank Adjustment						
59. Net Sample Weight *(mg)*						

Laboratory Results

	HA007-01	HA008-01	HA009-01	HA010-01	HA011-01	HA012-01
60. Lab Sample No. →	P 973966	P 973967	P 973968	P 973969	P 973970	P 973971
61. Substance	Results					
a. 9020	35% chrysotile	20% Chrysotile	Trace-2% chrysotile also NOC 190	10% Chrysotile	NOC 190	40% Chrysotile
b.						
c.						
d.						

62. Interferences and IH Comments to Lab

63. Chain of Custody

a. Seals Intact	Ø N	
b. Received in Lab	8-4-97	954 mmr
c. Received by Analyst		
d. Analysis Complete	8-13-97	SCJ MR
e. Calculation Checked	8/13-97	MR
f. Supervisor Ok.	13Aug97	HK

64. Supporting Samples

a. Blanks:

b. Bulks:

c. Other:

65. Analyst's Comments

66. Calculations and Field Notes

☆ U.S. GOVERNMENT PRINTING OFFICE: 1993-361-398

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

MOD Date	1. Reporting ID	2. Inspection Number	3. Sampling Number ▶ 913220125

4. Establishment Name: Packard Plant

5. Person Performing Sampling (Signature): Cindy S Tauferner

6. CSHO ID:

7. Sampling Date: 7/31/97

8. Shipping Date: 8/1/97

9. Employee (Name, Address, Telephone Number)
MDEQ-ERD-Superfund
PO BOX 30426
Lansing, MI 48909

13. Exposure Information: a. Number | b. Duration | c. Frequency

14. Weather Conditions

15. Photo(s): Y

10. Job Title: Asbestos Samples (Bulk)

11. Occupation Code

12. PPE (Type and Effectiveness)

16. Pump Checks and Adjustments

17. Job Description, Operation, Work Location(s), Ventilation, and Controls

Brownfield Investigation, pipe wrap, Pyrobar block, ceiling tiles, floor tiles, from old factory building

Cont'd.

Sampling Data

18. Pump Number:						
19. Sample Type/Media	B	B	B	B	B	B
20. Filter/Tube No.						
21. Sample Submission No.	HA013-01	HA014-01	HA015-01	HA016-01	HA017-01	HA018-01
22. Time On/Off						
23. Total Time *(in minutes)*						
24. Flow Rate ☐ *l/min* ☐ *cc/min*						
25. Volume *(in liters)*						
26. Net Sample Weight *(in mg)*						

Exposure Summary

27. Line No.	28. Substance Code	29. Rqstd.	30. Smpl. Type	31. Exp. Type	32. Exposure Level	33. Units	34. PEL	35. Adj.	36. Severity	37. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
1.	9020	L	B														
2.																	
3.																	
4.																	
38. Additives (Enter Line Numbers for those agents contributing to additive effect.)																	

39. Total Number of Lines (27)	40. Date Results Received from Laboratory	Case File Page of

OSHA-91(S) (Rev. 3/90)

Pre-Sampling Calibration Records

Pre

41. Pump Mfg. & SN	44. Flow Rate Calculations			
42. Voltage Checked? ☐ Yes ☐ No				
43. Location/T & Alt.	45. Flow Rate	46. Method ☐ Bubble ☐ PR	47. Initials	48. Date/Time

Post-Sampling Calibration Records

Post

49. Location/T & Alt.	50. Flow Rate Calculations		
51. Flow Rate	52. Initials	53. Date/Time	

Sample Weight Calculations

54. Filter No.						
55. Final Weight *(mg)*						
56. Initial Weight *(mg)*						
57. Weight Gained *(mg)*						
58. Blank Adjustment						
59. Net Sample Weight *(mg)*	HA013-01	HA014-01	HA015-01	HA016-01	HA017-01	HA018-01

Laboratory Results

	HA013-01	HA014-01	HA015-01	HA016-01	HA017-01	HA018-01
60. Lab Sample No. →	973972	973973	973974	973975	973976	973977
61. Substance a. 9000	Results ND<1%	Brown-Tile-2% chrysotile Slve-ND<1% Tan Tile-2% chrysotile Slve-ND<1%	ND<1%	ND<1%	ND<1%	ND<1%
b.						
c.						
d.						

62. Interferences and IH Comments to Lab

63. Chain of Custody

a. Seals Intact	(Y) N	
b. Received in Lab	8-4-97	931 mmr
c. Received by Analyst		
d. Analysis Complete	8-13-97	561 mmr
e. Calculation Checked	8/13/97	mmr
f. Supervisor Ok.	13Aug97	

64. Supporting Samples

a. Blanks:

b. Bulks:

c. Other:

65. Analyst's Comments

#973973 contained 4 two different fiber tiles.

66. Calculations and Field Notes

☆ U.S. GOVERNMENT PRINTING OFFICE: 1993-361-398

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

MOD	Date	1. Reporting ID	2. Inspection Number	3. Sampling Number
				913220133

4. Establishment Name: Packard Plant

5. Person Performing Sampling (Signature)	6. CSHO ID	7. Sampling Date	8. Shipping Date
Cindy Sourbeer		7/31/97	8/1/97

9. Employee (Name, Address, Telephone Number)
MDEQ- ERD- Superfund
PO Box 30426
Lansing, MI 48909

13. Exposure Information: a. Number | b. Duration | c. Frequency

14. Weather Conditions | 15. Photo(s): Y

10. Job Title: Asbestos Samples (Bulk) | 11. Occupation Code

12. PPE (Type and Effectiveness)

16. Pump Checks and Adjustments

17. Job Description, Operation, Work Location(s), Ventilation, and Controls

Brownfield investigation, pipe wrap, Pyrobar block, ceiling tile and floor tiles from old factory building

Cont'd.

18. Pump Number:

Sampling Data

19. Sample Type/Media				
20. Filter/Tube No.				
21. Sample Submission No.	HA019-01	HA020-01	HA021-01	HA022-01
22. Time On/Off				
23. Total Time (in minutes)				
24. Flow Rate ☐ l/min ☐ cc/min				
25. Volume (in liters)				
26. Net Sample Weight (in mg)				

RECEIVED
AUG 15 1997
ERD-SUPERFUND

Exposure Summary

27. Line No.	28. Substance Code	29. Rqstd.	30. Smpl. Type	31. Exp. Type	32. Exposure Level	33. Units	34. PEL	35. Adj.	36. Severity	37. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
1.	9020	L	B														
2.																	
3.																	
4.																	

38. Additives (Enter Line Numbers for those agents contributing to additive effect.)

39. Total Number of Lines (27)	40. Date Results Received from Laboratory	Case File Page of

OSHA-91(S) (Rev. 3/90)

Pre-Sampling Calibration Records

Pre

41. Pump Mfg. & SN	44. Flow Rate Calculations			
42. Voltage Checked? ☐ Yes ☐ No				
43. Location/T & Alt.	45. Flow Rate	46. Method ☐ Bubble ☐ PR	47. Initials	48. Date/Time

Post-Sampling Calibration Records

Post

49. Location/T & Alt.	50. Flow Rate Calculations	
51. Flow Rate	52. Initials	53. Date/Time

Sample Weight Calculations

54. Filter No.						
55. Final Weight *(mg)*						
56. Initial Weight *(mg)*						
57. Weight Gained *(mg)*						
58. Blank Adjustment						
59. Net Sample Weight *(mg)*						

Laboratory Results

	HA019-01	HA020-01	HA021-01	HA022-01		
60. Lab Sample No. →	973978	973979	973980	973981		
61. Substance	Results					
a. % Asbestos (4020)	Black Tile - 2% chrysotile	ND < 1%	ND < 1%	ND < 1%		
b.	Blue - ND < 1%					
c.	Brown Tile - 2% chrysotile					
d.	Blue - 2% chrysotile					

62. Interferences and IH Comments to Lab

63. Chain of Custody

a. Seals Intact	(Y) N	
b. Received in Lab	8-4-97	9SH mmr
c. Received by Analyst		
d. Analysis Complete	8-13-97	SG / RR
e. Calculation Checked	8/13/97	mfm
f. Supervisor Ok.	13 Aug 97	JK

64. Supporting Samples

a. Blanks:

b. Bulks:

c. Other:

65. Analyst's Comments

973978. contained two different tiles

66. Calculations and Field Notes

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 1 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA001-01

DESCRIPTION:
Aircell pipe wrap collected from pipes along wall in the basement of Building 38.

DATE: 7/31/1997

PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAOO2-01

DESCRIPTION:
Aircell pipewrap from basement of building 38.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 2 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA003-01

DESCRIPTION:
Aircell pipe wrap collected from third floor of Building 28.

DATE: 7/31/1997

PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAOO4-01

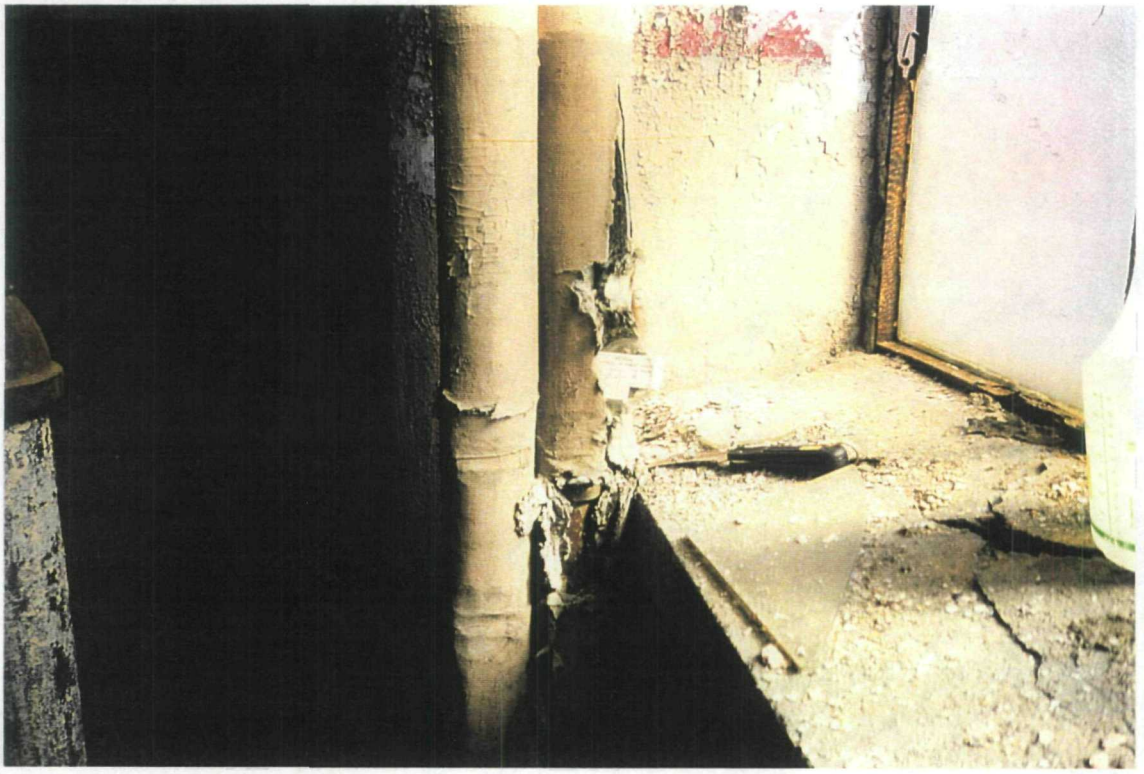
DESCRIPTION:
Floor tile collected from third floor of Building 38.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 3 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997



PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA00501

DESCRIPTION:
Aircell pipe wrap collected from bathroom in northeast corner of third floor of Building 92.

DATE: 7/31/1997

PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAOO6-01

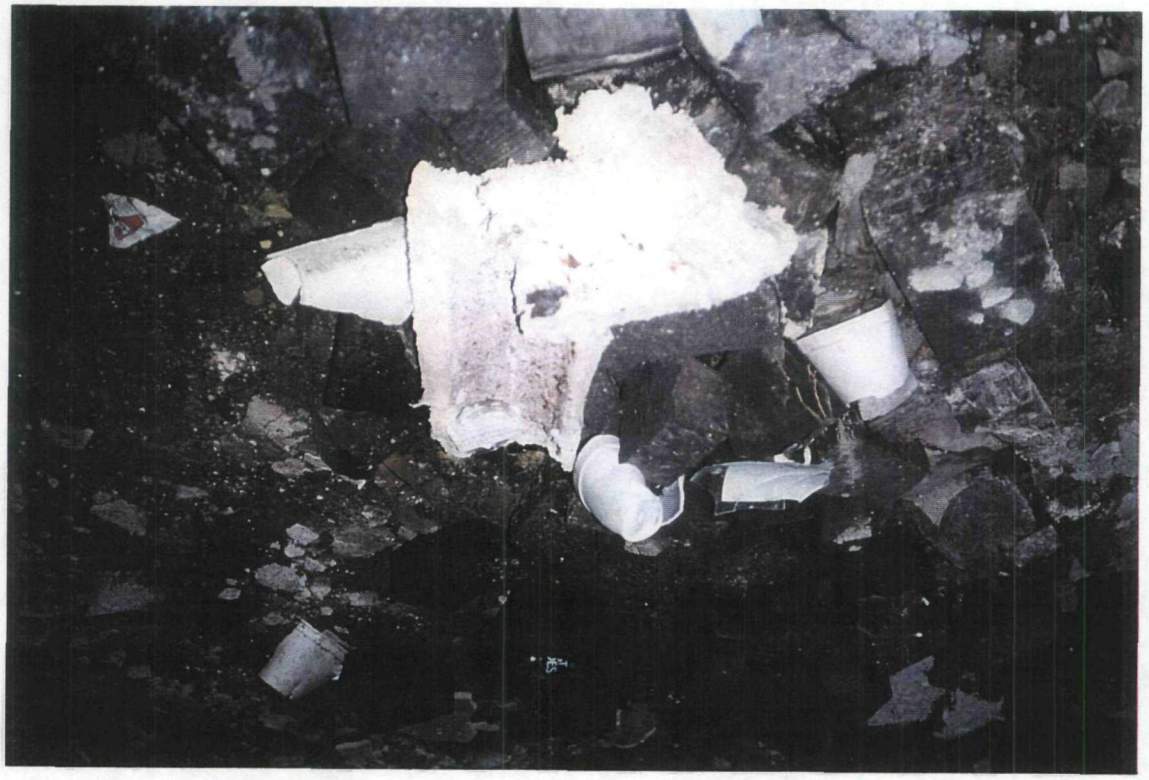
DESCRIPTION:
Aircell pipewrap on vertical pipes along wall on third floor of Building 18 near the parking ramp area.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 4 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997



PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA00701

DESCRIPTION:
White, friable, fibrous pipewrap from ceiling pipe on first floor of building 23.

DATE: 7/31/1997

PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAOO8-01

DESCRIPTION:
Aircell pipewrap on vertical pipes along wall on first floor of Building 7.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: PACKARD PLANT COMPLEX PAGE: 5 OF: 6

U.S. EPA ID #: MIB000000011

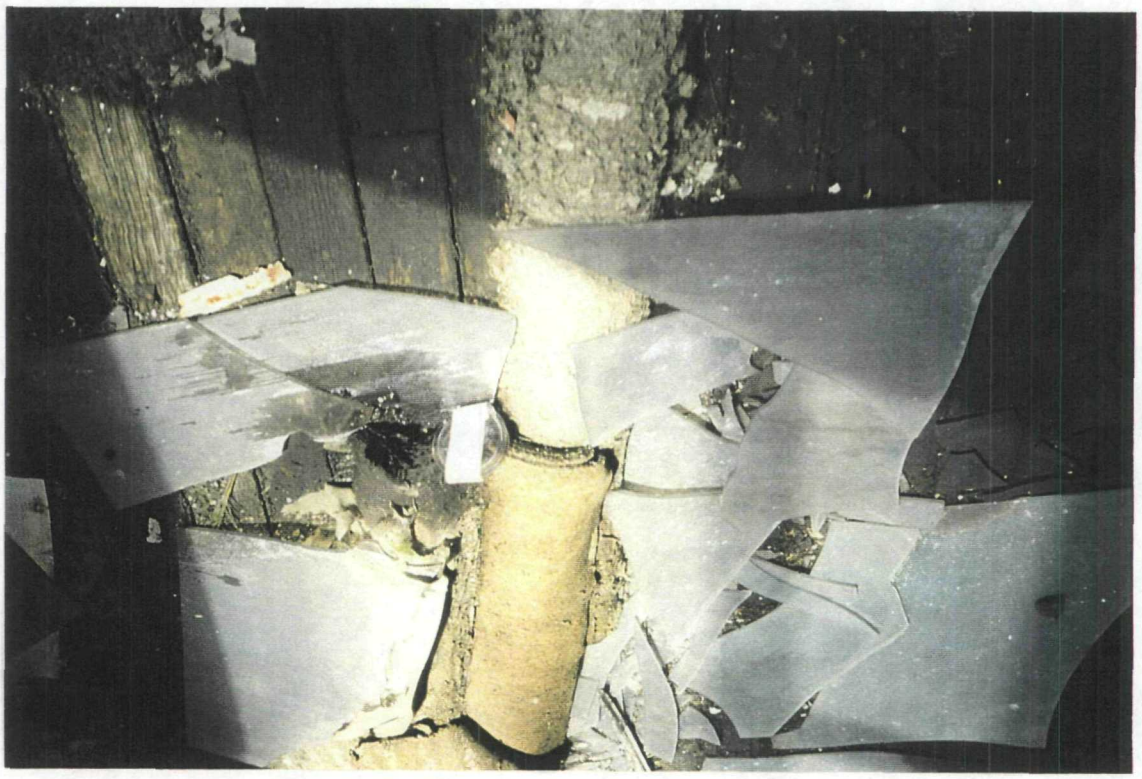
DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA009-01

DESCRIPTION:
Blue/green crumbled floor tile from office area, southwest corner of second floor of Building 1.

DATE: 7/31/1997



PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAO11-01

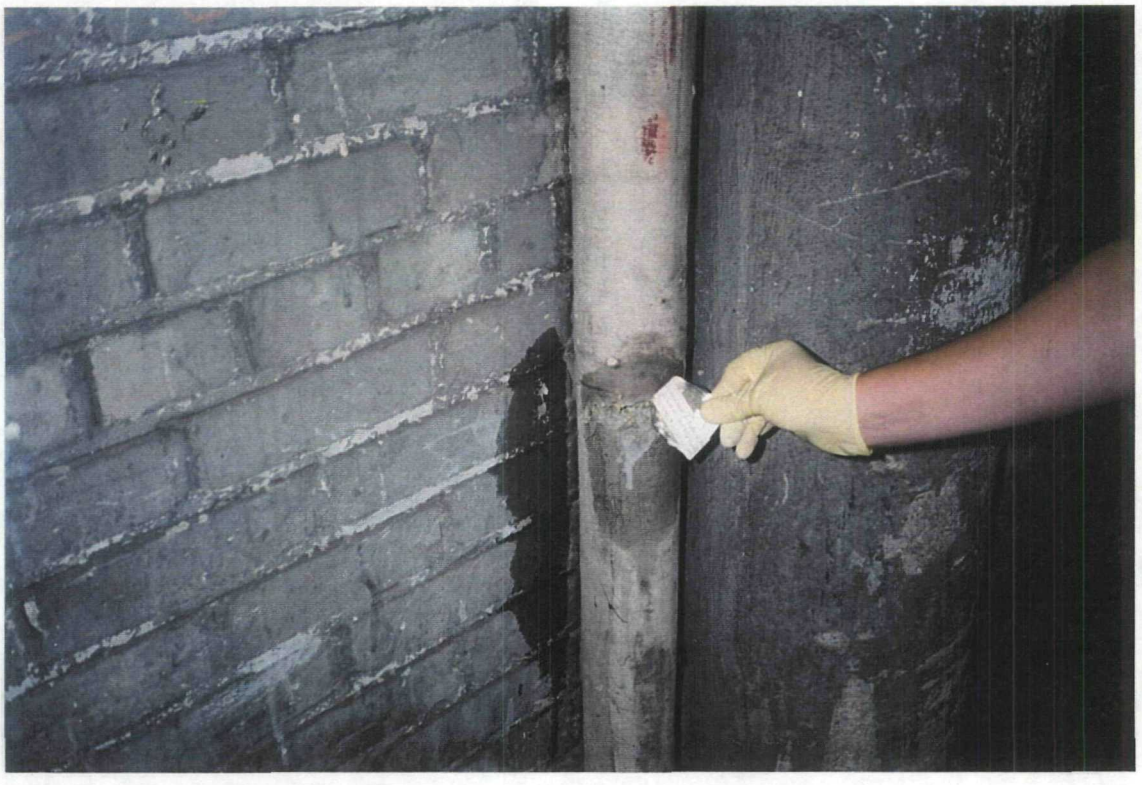
DESCRIPTION:
Aircell pipewrap on ceiling pipes on fourth floor of Building 1.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 6 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997



PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
HA012-01

DESCRIPTION:
Aircell pipewrap from vertical pipe near bathroom from fourth floor of Building 5.

DATE: 7/31/1997

PHOTOGRAPHED BY:

FAIRBANKS

SAMPLE ID:

HAO1801

DESCRIPTION:
Pyrobar blocks in furnace room on fourth floor of Building 13.

APPENDIX D

CHEMICAL ANALYSIS OF BFRA SURFICAL SOIL SAMPLE DATA

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

REPORT Environmental Response Div.
TO ~~Mason~~ Building 301 S. Capitol
Lansing, MI 48909

ATTEN CINDY FAIRBANKS

LABORATORY WORK ORDER # 97-08-004
WORK ID PACKARD PLANT
P.O. # ** COST $ 2553.00
RECEIVED 08/01/97 CLIENT ER SUPER
REPORTED _____ NUMBER OF SAMPLES 5
LAB CONTACT IN OR MATRIX SOIL

TEST UNITS	SS-1 METALS	SS2-METALS
Cadmium in Sediment mg/kg (dry)	18	45
Chromium in Sediment mg/kg (dry)	110	200
Copper in Sediment mg/kg (dry)	490	650
Nickel in Sediment mg/kg (dry)	67.5	90
Lead in Sediment mg/kg (dry)	950	5400
Total Solids - Inorganic %TS	95.6	96.2
Zinc in Sediment mg/kg (dry)	1900	11000

Report prepared By: Louis C. Ulen D 8/13/97

SAMPLE ID SS1-PCB FRACTION 01A TEST CODE S_PCB NAME PCBs-Soil/Sediment
Date & Time Collected 07/31/97 Category

ANALYST TAIT
ANALYZED 08/11/97
DILUTION 0.24

Total Solids 94 %

UNITS ug/Kg ppb

CAS#	COMPOUND	RESULT	REMARK	REPORTED DETECTION LIMIT
53469-21-9	Aroclor 1242 (PCB)	ND		130
11097-69-1	Aroclor 1254 (PCB)	ND		130
11096-82-5	Aroclor 1260 (PCB)	ND	W	130
12674-11-1	*Aroclor 1016 (PCB)	ND		130
11104-28-2	*Aroclor 1221 (PCB)	ND		130
11141-16-5	*Aroclor 1232 (PCB)	ND		130
12672-29-6	*Aroclor 1248 (PCB)	ND		130
- -	*Aroclor 1262 (PCB)	ND		130
11100-14-4	*Aroclor 1268 (PCB)	ND		130

ND = not detected at the specified detection limit.
* Results and Det. Limit reported semi-quantitatively *

COMMENTS ~~MM~~=Sediment analyzed as an oil

SAMPLE ID SS-2 PCB FRACTION 03A TEST CODE S_PCB NAME PCBs-Soil/Sediment
Date & Time Collected 07/31/97 Category

ANALYST TAIT
ANALYZED 08/11/97
DILUTION .26

Total Solids 98 %

UNITS ug/Kg ppb

CAS#	COMPOUND	RESULT	REMARK	REPORTED DETECTION LIMIT
53469-21-9	Aroclor 1242 (PCB)	ND		130
11097-69-1	Aroclor 1254 (PCB)	1300		130
11096-82-5	Aroclor 1260 (PCB)	610		130
12674-11-1	*Aroclor 1016 (PCB)	ND		130
11104-28-2	*Aroclor 1221 (PCB)	ND		130
11141-16-5	*Aroclor 1232 (PCB)	ND		130
12672-29-6	*Aroclor 1248 (PCB)	ND		130
- -	*Aroclor 1262 (PCB)	ND		130
11100-14-4	*Aroclor 1268 (PCB)	ND		130

ND = not detected at the specified detection limit.
* Results and Det. Limit reported semi-quantitatively *

COMMENTS MM=Sediment analyzed as an oil

SAMPLE ID SS3-PCB FRACTION 05A TEST CODE S_PCB NAME PCBs-Soil/Sediment
Date & Time Collected 07/31/97 Category

ANALYST TAIT
ANALYZED 08/01/97
DILUTION .54

Total Solids 72 %

UNITS ug/Kg ppb

CAS#	COMPOUND	RESULT	REMARK	REPORTED DETECTION LIMIT
53469-21-9	Aroclor 1242 (PCB)	ND		380
11097-69-1	Aroclor 1254 (PCB)	ND		380
11096-82-5	Aroclor 1260 (PCB)	120	T,PI	380
12674-11-1	*Aroclor 1016 (PCB)	ND		380
11104-28-2	*Aroclor 1221 (PCB)	ND		380
11141-16-5	*Aroclor 1232 (PCB)	ND		380
12672-29-6	*Aroclor 1248 (PCB)	ND		380
- -	*Aroclor 1262 (PCB)	ND		380
11100-14-4	*Aroclor 1268 (PCB)	ND		380

ND = not detected at the specified detection limit.
* Results and Det. Limit reported semi-quantitatively *

COMMENTS MM=Sediment analyzed as an oil

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY	**ENVIRONMENTAL LABORATORY PROCEDURE**	*NO: PD-13* *DATE: Rev. 10/9/95*

Subject: ***Laboratory Result Remark Codes***

A	value reported is the mean of two or more determinations.
C	value calculated from other independent parameters.
J	estimated value or value not accurate.
K	actual value is known to be less than the value given, i.e. substance, if present, is below detection limit.
L	actual value is known to be greater than the value given.
T	value reported is less than criteria of detection.
W	value observed is less than lowest value reportable under "T" code.
DL	sample analyzed using a dilution(s).
DM	dilution required due to matrix problems.
HT	recommended laboratory holding time was exceeded before analysis.
LH	Q. C. indicated possible low recovery. Actual level may be higher.
LL	Q. C. indicated possible high recovery. Actual level may be lower.
MM	analytical method or matrix is not within SOP of this laboratory.
NC	no confirmation by a second technique.
NH	non-homogeneous sample made analysis of a representative sample questionable.
PI	possible interference may have affected the accuracy of the laboratory result.
QC	quality control problems exists.
RB	Reagent Blank. The level of reagent blank contamination is reported in the comment column and may be subtracted from the analyte value by the user.
ST	recommended sample collection/preservation technique not used.
ACC	laboratory accident resulted in no obtainable value.
FCN	free cyanide was not analyzed due to low level of total cyanide.
INT	interference encountered during analysis resulted in no obtainable value.
IST	Improper sample collection/preservation. Sample not suitable for analysis.
NAV	requested analysis not available.
QNS	quantity not sufficient to perform requested analysis.
STR	settleable residue was not analyzed due to low suspended solids.

Approved by: George Su, Lab Section Chief 10/17/95 Date

DEQ

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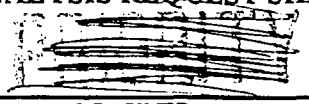
Codes.doc

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
LABORATORY ANALYSIS REQUEST SHEET



**** SAFETY WARNING ****
YES / NO - INFO ON BACK

MATRIX = SEDIMENT / SOIL

LAB ORDER # 97-08-004 PRIORITY: # RECEIVED AT LAB BY DH DATE TIME 8/1/97 1000 AM PM

SUBMITTER DIVISION ERD DISTRICT OR OFFICE Superfund Lansing CONTACT PERSON FOR QUESTIONS Cindy Fairbanks PHONE (517)-335-4111

LOCATION SAMPLED Packard Plant COLLECTED BY C. Fairbanks DELIVERED BY C Fairbanks

ACCEPT "HT" CODE YES / NO

SEND RESULTS TO ATTENTION OF C. Fairbanks AT ADDRESS (if different than above office) Same as above

INDEX 46538 PCA 31351 PROJECT 454660 PH 02

SAMPLE REMARKS:

SAMPLE NO.	FIELD ID OR DESCRIPTION	SAMPLE COLLECTED YY/MM/DD	HH:MM	SAMPLE INFORMATION
01	SS1-PCB	7/31/97		Stained Soil
02	SS1-metals	7/31/97		" "
03	SS2-PCB	7/31/97		" "
04	SS2-metals	7/31/97		" "
05	SS3-PCB	7/31/97		" "
06				
07				
08				

GENERAL CHEMISTRY

GS

COD	1 2 3 4 5 6 7 8
KJEL N, Tot P	1 2 3 4 5 6 7 8
Phenolics	1 2 3 4 5 6 7 8
Total CN	1 2 3 4 5 6 7 8
% Total Solids	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8

ORGANIC

POV VOLATILES

8260 (Sc 1,2)	1 2 3 4 5 6 7 8
BTEX (only)	1 2 3 4 5 6 7 8
8260 plus	1 2 3 4 5 6 7 8

OS PEST & PCB

8081/8121, (Sc 3)	1 2 3 4 5 6 7 8
PCB (only)	(1) 2 (3) 4 (5) 6 7 8
8270 (BN)	1 2 3 4 5 6 7 8

SPECIAL REQUESTS

Lib. Search (Qualitative)	
Volatiles	1 2 3 4 5 6 7 8
Base Neutral	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8

INORGANIC

MS

Ca Mg Na K	1 2 3 4 5 6 7 8
Cd Cr Cu Ni Pb Zn	(2) 3 (4) 5 6 7 8
Fe Co Li Mn	1 2 3 4 5 6 7 8
Al Ba Be Mo Ti V	1 2 3 4 5 6 7 8
Hg - Mercury	1 2 3 4 5 6 7 8
As - Arsenic	1 2 3 4 5 6 7 8
Se - Selenium	1 2 3 4 5 6 7 8
Sr - Strontium	1 2 3 4 5 6 7 8
Ag - Silver.	1 2 3 4 5 6 7 8
Tl - Thallium	1 2 3 4 5 6 7 8
% Total Solids	1 2 3 4 5 6 7 8
	1 2 3 4 5 6 7 8
_____ /	1 2 3 4 5 6 7 8

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 1 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
SS 1

DESCRIPTION:
Surficial Soil 1 collected from area of stained soil west of Building 7 and east of Railroad Tracks.

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
SS 2

DESCRIPTION:
Surficial Soil 2 collected from stained soil inside pumphouse located along the outer west face of Building 9.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 2 OF: 6

U.S. EPA ID #: **MIB000000011**

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
SS 3

Stained soil around barrels west of Building 7/8/9, sample location.

APPENDIX E

CHEMICAL ANALYSIS OF BFRA PAINT CHIP SAMPLE DATA

Received: 08/01/97 Results by Sample

SAMPLE ID OIL 1 FRACTION 01A TEST CODE O_PCB NAME PCBs-Oil/Organic
Date & Time Collected 07/31/97 Category

ANALYST TAIT
ANALYZED 08/11/97
DILUTION 1

UNITS mg/Kg ppm

CAS#	COMPOUND	RESULT	REMARK	REPORTED DETECTION LIMIT
53469-21-9	Aroclor 1242 (PCB)	ND		5.0
11097-69-1	Aroclor 1254 (PCB)	ND		5.0
11096-82-5	Aroclor 1260 (PCB)	ND		5.0
12674-11-1	*Aroclor 1016 (PCB)	ND		5.0
11104-28-2	*Aroclor 1221 (PCB)	ND		5.0
11141-16-5	*Aroclor 1232 (PCB)	ND		5.0
12672-29-6	*Aroclor 1248 (PCB)	ND		5.0
- -	*Aroclor 1262 (PCB)	ND		5.0
11100-14-4	*Aroclor 1268 (PCB)	ND		5.0

ND = not detected at the specified detection limit.
* Results and Det. Limit reported semi-quantitatively *
MM: Analytical method not validated for this matrix.

COMMENTS

SAMPLE ID OIL 2 FRACTION 02A TEST CODE O_PCB NAME PCBs-Oil/Organic
Date & Time Collected 07/31/97 Category

ANALYST TAIT
ANALYZED 08/11/97
DILUTION 1

UNITS mg/Kg ppm

CAS#	COMPOUND	RESULT	REMARK	REPORTED DETECTION LIMIT
53469-21-9	Aroclor 1242 (PCB)	ND		5.0
11097-69-1	Aroclor 1254 (PCB)	ND		5.0
11096-82-5	Aroclor 1260 (PCB)	3.9	T	5.0
12674-11-1	*Aroclor 1016 (PCB)	ND		5.0
11104-28-2	*Aroclor 1221 (PCB)	ND		5.0
11141-16-5	*Aroclor 1232 (PCB)	ND		5.0
12672-29-6	*Aroclor 1248 (PCB)	ND		5.0
- -	*Aroclor 1262 (PCB)	ND		5.0
11100-14-4	*Aroclor 1268 (PCB)	ND		5.0

ND = not detected at the specified detection limit.
* Results and Det. Limit reported semi-quantitatively *
MM: Analytical method not validated for this matrix.

COMMENTS

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY	**ENVIRONMENTAL LABORATORY PROCEDURE**	*NO: PD-13* *DATE: Rev. 10/9/95*

Subject: ***Laboratory Result Remark Codes***

A	value reported is the mean of two or more determinations.
C	value calculated from other independent parameters.
J	estimated value or value not accurate.
K	actual value is known to be less than the value given, i.e. substance, if present, is below detection limit.
L	actual value is known to be greater than the value given.
T	value reported is less than criteria of detection.
W	value observed is less than lowest value reportable under "T" code.
DL	sample analyzed using a dilution(s).
DM	dilution required due to matrix problems.
HT	recommended laboratory holding time was exceeded before analysis.
LH	Q. C. indicated possible low recovery. Actual level may be higher.
LL	Q. C. indicated possible high recovery. Actual level may be lower.
MM	analytical method or matrix is not within SOP of this laboratory.
NC	no confirmation by a second technique.
NH	non-homogeneous sample made analysis of a representative sample questionable.
PI	possible interference may have affected the accuracy of the laboratory result.
QC	quality control problems exists.
RB	Reagent Blank. The level of reagent blank contamination is reported in the comment column and may be subtracted from the analyte value by the user.
ST	recommended sample collection/preservation technique not used.
ACC	laboratory accident resulted in no obtainable value.
FCN	free cyanide was not analyzed due to low level of total cyanide.
INT	interference encountered during analysis resulted in no obtainable value.
IST	Improper sample collection/preservation. Sample not suitable for analysis.
NAV	requested analysis not available.
QNS	quantity not sufficient to perform requested analysis.
STR	settleable residue was not analyzed due to low suspended solids.

Approved by: _____ George Su, Lab Section Chief 10/17/95 Date

DEQ

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Codes.doc

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MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
LABORATORY ANALYSIS REQUEST SHEET

Toxic

Priority

MATRIX = ORGANIC (OIL) / COAL

**** SAFETY WARNING ****
YES / NO - INFO ON BACK

LAB ORDER # 97-08-005 PRIORITY I RECEIVED AT LAB BY DH DATE TIME 8/1/97 10:00 AM PM

SUBMITTER DIVISION ERD DISTRICT OR OFFICE Superfund Lansing CONTACT PERSON FOR QUESTIONS Cindy Fairbanks PHONE (517)-335-4111

LOCATION SAMPLED Packard Plant COLLECTED BY C. Fairbanks DELIVERED BY C. Fairbanks

ACCEPT "HT" CODE YES / NO SEND RESULTS TO ATTENTION OF C. Fairbanks AT ADDRESS (if different than above office) Same as above

INDEX 46538 PCA 31351 PROJECT 454660 PH 02

SAMPLE REMARKS:

SAMPLE NO.	FIELD ID OR DESCRIPTION	SAMPLE COLLECTED YY/MM/DD	HH:MM	SAMPLE INFORMATION
01	Oil 1	7/31/97		Oil from capicator
02	Oil 2	7/31/97		Oil from capicator
03				
04				
05				
06				
07				
08				

GENERAL CHEMISTRY

HW

Flashpoint 1 2 3 4 5 6 7 8
Solubility 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8

ORGANIC

OL

Volatile Oil 8260 1 2 3 4 5 6 7 8
PCB only (1) (2) 3 4 5 6 7 8
Pest & PCB 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8

INORGANIC

MO

Cd Cr Cu Ni Pb Zn 1 2 3 4 5 6 7 8
Fe Co Li Mn 1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
Al Ba Be Mo Ti V 1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
Hg - Mercury 1 2 3 4 5 6 7 8
As - Arsenic 1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
% Cl 1 2 3 4 5 6 7 8
BTU 1 2 3 4 5 6 7 8
% Sulfur 1 2 3 4 5 6 7 8
% Ash 1 2 3 4 5 6 7 8
% H2O 1 2 3 4 5 6 7 8
_____ 1 2 3 4 5 6 7 8

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 3 OF: 6

U.S. EPA ID #: **MIB000000011**

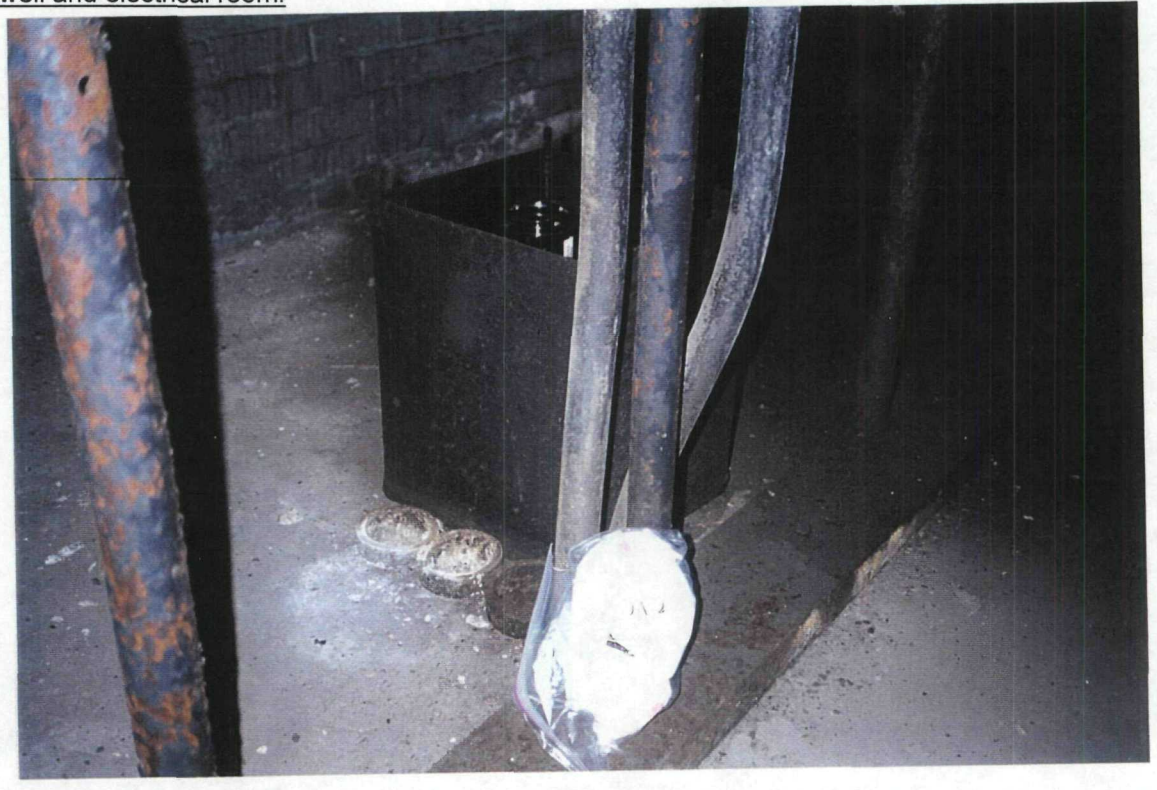
DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
OIL 1

DESCRIPTION:
Oil Sample 1 collected from capacitor carcasses located on the third floor of Building 35,38 in the southeast corner near elevator shaft, stairwell and electrical room.

DATE: 7/31/1997



PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
OIL 2

DESCRIPTION:
Oil sample 2 collected from capacitor carcasses located on the third floor of Building 11,12 found in electrical room near elevator and entranceway to office area of Building 13.

APPENDIX F

CHEMICAL ANALYSIS OF CAPACITOR OIL SAMPLE DATA

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

REPORT Environmental Response Div.
TO ~~Mason~~ Building Capitol
Lansing, MI 48909

ATTEN CINDY FAIRBANKS

LABORATORY WORK ORDER # 97-08-006
WORK ID PACKARD PLANT
P.O. # ** COST $ 687.15
RECEIVED 08/01/97 CLIENT ER SUPER
REPORTED _____ NUMBER OF SAMPLES 9
LAB CONTACT IN MATRIX PAINT CHIPS

TEST / UNITS	PC1	PC2	PC3	PC4
Lead in Sediment mg/kg (dry)	69100	10300	4900	42800
Total Solids - Inorganic %TS	98.7	98.2	97.9	98.3

TEST / UNITS	PC5	PC6	PC7	PC8
Lead in Sediment mg/kg (dry)	625	32600	34900	3030
Total Solids - Inorganic %TS	98.8	98.4	98.5	98.4

TEST / UNITS	PC9
Lead in Sediment mg/kg (dry)	2200
Total Solids - Inorganic %TS	98.6

Report prepared By: Louis C. Utes 8/7/97

RECEIVED
AUG 11 1997

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY	**ENVIRONMENTAL LABORATORY PROCEDURE**	*NO: PD-13* *DATE: Rev. 10/9/95*

Subject: ***Laboratory Result Remark Codes***

A	value reported is the mean of two or more determinations.
C	value calculated from other independent parameters.
J	estimated value or value not accurate.
K	actual value is known to be less than the value given, i.e. substance, if present, is below detection limit.
L	actual value is known to be greater than the value given.
T	value reported is less than criteria of detection.
W	value observed is less than lowest value reportable under "T" code.
DL	sample analyzed using a dilution(s).
DM	dilution required due to matrix problems.
HT	recommended laboratory holding time was exceeded before analysis.
LH	Q. C. indicated possible low recovery. Actual level may be higher.
LL	Q. C. indicated possible high recovery. Actual level may be lower.
MM	analytical method or matrix is not within SOP of this laboratory.
NC	no confirmation by a second technique.
NH	non-homogeneous sample made analysis of a representative sample questionable.
PI	possible interference may have affected the accuracy of the laboratory result.
QC	quality control problems exists.
RB	Reagent Blank. The level of reagent blank contamination is reported in the comment column and may be subtracted from the analyte value by the user.
ST	recommended sample collection/preservation technique not used.
ACC	laboratory accident resulted in no obtainable value.
FCN	free cyanide was not analyzed due to low level of total cyanide.
INT	interference encountered during analysis resulted in no obtainable value.
IST	Improper sample collection/preservation. Sample not suitable for analysis.
NAV	requested analysis not available.
QNS	quantity not sufficient to perform requested analysis.
STR	settleable residue was not analyzed due to low suspended solids.

Approved by: George Su, Lab Section Chief 10/17/95 Date

DEQ

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Codes.doc

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
LABORATORY ANALYSIS REQUEST SHEET

MATRIX = ~~ORGANIC / OIL / COAL~~ Paint Chips

**** SAFETY WARNING ****
YES / NO - INFO ON BACK

LAB ORDER # 97-08-006 | PRIORITY H | RECEIVED AT LAB BY DH | DATE 8/1/97 TIME 1000 AM/PM

SUBMITTER DIVISION ERD | DISTRICT OR OFFICE Superfund Lansing | CONTACT PERSON FOR QUESTIONS Cindy Fairbanks | PHONE 517-335-4111

LOCATION SAMPLED Packard Plant | COLLECTED BY C. Fairbanks | DELIVERED BY C. Fairbanks

ACCEPT "HT" CODE YES / NO | SEND RESULTS TO ATTENTION OF C. Fairbanks | AT ADDRESS (if different than above office) same as above

INDEX 46538 | PCA 31351 | PROJECT 454660 | PH 02

SAMPLE REMARKS:

SAMPLE NO.	FIELD ID OR DESCRIPTION	SAMPLE COLLECTED YY/MM/DD	SAMPLE COLLECTED HH:MM	SAMPLE INFORMATION
01	PC1	7/31/97		Paint from walls
02	PC2	7/31/97		" " "
03	PC3	7/31/97		" " "
04	PC4	7/31/97		" " "
05	PC5	7/31/97		" " "
06	PC6	7/31/97		" " "
07	PC7	7/31/97		" " "
08	PC8	7/31/97		" " "
09	PC9	7/31/97		" " "

*

GENERAL CHEMISTRY

HW

Flashpoint	1 2 3 4 5 6 7 8
Solubility	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8

ORGANIC

OL

Volatile Oil 8260	1 2 3 4 5 6 7 8
	1 2 3 4 5 6 7 8
PCB only	1 2 3 4 5 6 7 8
Pest & PCB	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8

INORGANIC

MO

Cd Cr Cu Ni (Pb) Zn	(1)(2)(3)(4)(5)(6)(7)(8)(9)
Fe Co Li Mn	1 2 3 4 5 6 7 8
	1 2 3 4 5 6 7 8
Al Ba Be Mo Ti V	1 2 3 4 5 6 7 8
	1 2 3 4 5 6 7 8
Hg - Mercury	1 2 3 4 5 6 7 8
As - Arsenic	1 2 3 4 5 6 7 8
	1 2 3 4 5 6 7 8
% Cl	1 2 3 4 5 6 7 8
BTU	1 2 3 4 5 6 7 8
% Sulfur	1 2 3 4 5 6 7 8
% Ash	1 2 3 4 5 6 7 8
% H2O	1 2 3 4 5 6 7 8
_____	1 2 3 4 5 6 7 8

* Test for lead content only for all samples.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: **PACKARD PLANT COMPLEX** PAGE: 4 OF: 6

U.S. EPA ID #: **MIB000000011**

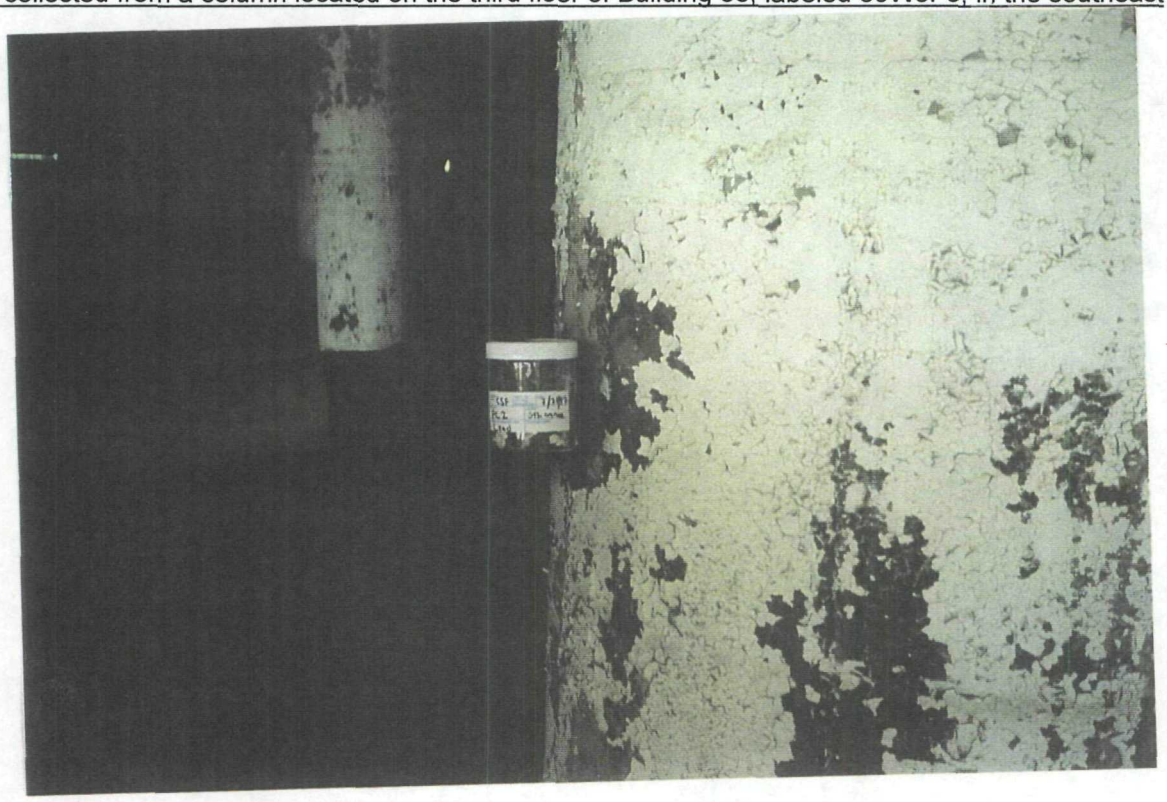
DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 1

DESCRIPTION:
Paint Chip Sample 1 collected from a column located on the third floor of Building 38, labeled 35W3F3, in the southeast corner of the floor.

DATE: 7/31/1997



PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 2

DESCRIPTION:
Paint Chip sample 2 collected from column on third floor of Building 92 at the Bellevue overpass connector entrance.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: PACKARD PLANT COMPLEX PAGE: 5 OF: 6

U.S. EPA ID #: MIB000000011

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 3

DESCRIPTION:
Paint Chip Sample 3 collected from a square column located on the third floor of Building 18-21, in the northeast corner of the floor.

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 4

DESCRIPTION:
Paint Chip Sample 4 collected from square column on first floor of Building 23.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: PACKARD PLANT COMPLEX PAGE: 6 OF: 6

U.S. EPA ID #: MIB000000011

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 5

DESCRIPTION:
Paint Chip Sample 5 collected from the interior north wall on first floor of Building 9-8-7.

DATE: 7/31/1997

PHOTOGRAPH BY:
FAIRBANKS

SAMPLE ID:
PC 7

DESCRIPTION:
Paint Chip Sample 7 collected from column in the northeast corner on fourth floor of Building 5.